

PRESIDENT'S SECRETARY'S FILE  
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The President

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# WAR PROGRESS

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*(British Secret)*

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**Airplane Production In July**  
**Scorecard On Merchant Shipping**

Number 151

August 6, 1943

## Plane Production Slow to Rally

July output is only 4% ahead of June, and June was 3% ahead of May. Causes general: Vacations, weather, absenteeism, design changes, labor shortages.

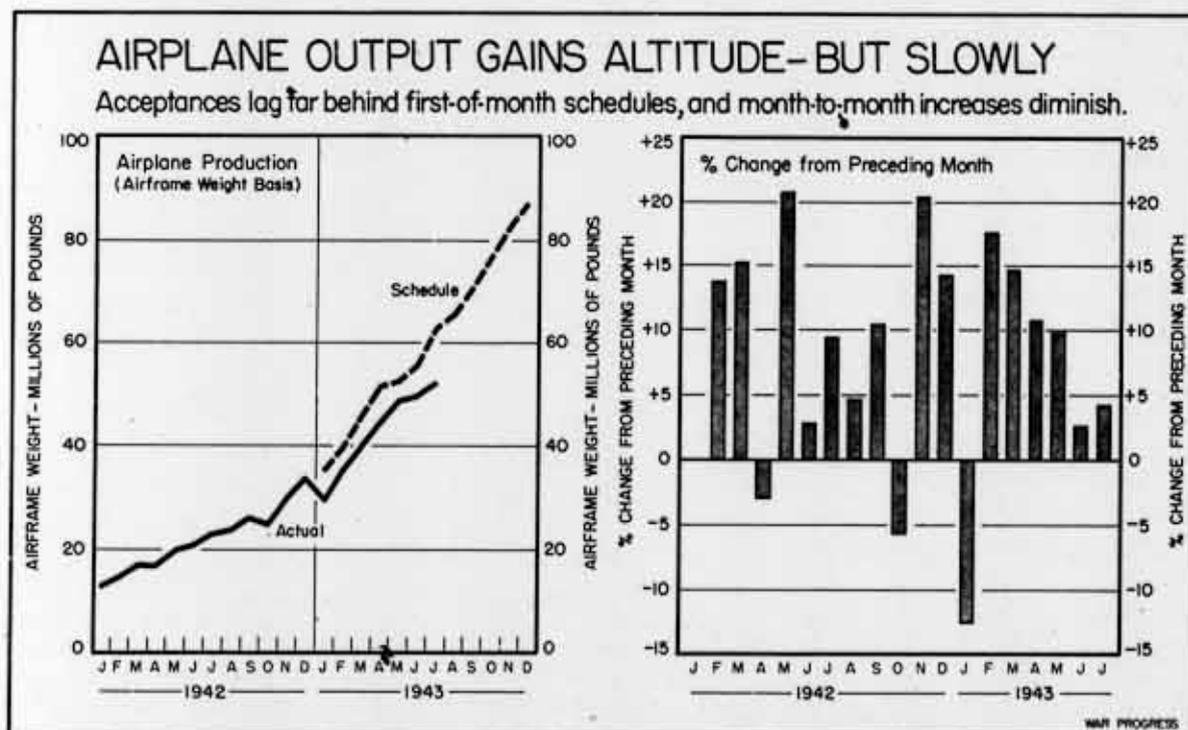
AIRPLANE ACCEPTANCES last month again registered only a small gain. According to the W-4 schedule, in effect on the first of the month, production should have passed the 8,000-per-month mark. But only 7,326 planes (excluding special aircraft such as targets and Drones) were accepted. This was 268 planes—4%—higher than June. On an airframe-weight basis, the gain was also 4% and only a shade higher than the June increase over May, which was 3%.

### 12% UNDER W-5

The July lag behind the first-of-the-month schedule (W-4) was the greatest

of the year to date: 17%. The discrepancy from the July 15 revision, W-5, was 12%. In only one month this year—May—has the deficiency been less than 10%.

Even more important than the deficiency from schedule is the inability of airplane production to rally more sharply from last month's modest gain. In the past, a "slow" month has invariably been followed by a fairly sharp upswing (chart, page 1). This has generally been because particular plants or particular types of troubles caused a relapse, and then, when these were corrected, acceptances recoiled upward. The faltering gain last month, relative to June, follows the recent pattern of war production generally, and perhaps suggests an overall industrial fatigue. Monthly gains, since last December,



are as follows (airframe weight basis): numerically over July and a 26% gain in airframe weight.

	% Change from Preceding Month
January.....	-13%
February.....	+18
March.....	+15
April.....	+11
May.....	+10
June.....	+3
July.....	+4

Hot weather, vacations, absenteeism, design changes, and manpower shortages again combined to slow production during July. There were also the customary explanations of components difficulties, materials shortages, assembly-line alterations, and rejections by the services. But by and large, labor difficulties—of one type or another—were blamed for most of the failures to come up to schedule.

#### SUPERHEAVYWEIGHT DEBUT

Though production sights were lowered slightly in the W-5 schedule released late last month (WP-July 30 '43, p5), the immediate outlook for meeting schedule is anything but promising. Monthly goals are still high. Thus, August calls for 8,618 planes—an 18% increase

Debut of the month was the superheavy-weight, long-range bomber. Seven were accepted at Boeing's Wichita plant. Original delivery had been scheduled for March but there were engineering difficulties. These planes are powered by four engines of 2,250 hp each, weigh almost twice as much as the Flying Fortress and can travel about twice as far. (Fortress engines deliver 1,200 hp.)

Other debuts were:

The fast-flying Lockheed Constellation (C-69) "luxury liner" transport plane, with a gross weight almost three times that of the Douglas DC-3, still the dominant transport.

The long-awaited Northrop P-61, a twin-engined night fighter with a high ratio of power to weight.

As a group, bomber acceptances ran at the same level and 19% behind schedule (table, page 4). Flying Fortresses and Liberators were up 11%, completing six months of successive new highs. Nevertheless, they lagged 11% behind the W-4 schedule; indeed, these heavy bombers have been falling farther and farther behind the goals set for them (chart, page 3).

#### LIBERATORS OUTFRONT FORTS

As in June, Flying Fortress output was reduced by labor problems at Boeing in Seattle; and at Ford, Willow Run, Liberators again were held back by installation of a new chin turret. But for the third month in a row, production of Liberators exceeded that of Flying Fortresses—441 to 379. This is according to plan; by the end of the year, output of B-24s should be outnumbering B-17s almost 2-to-1.

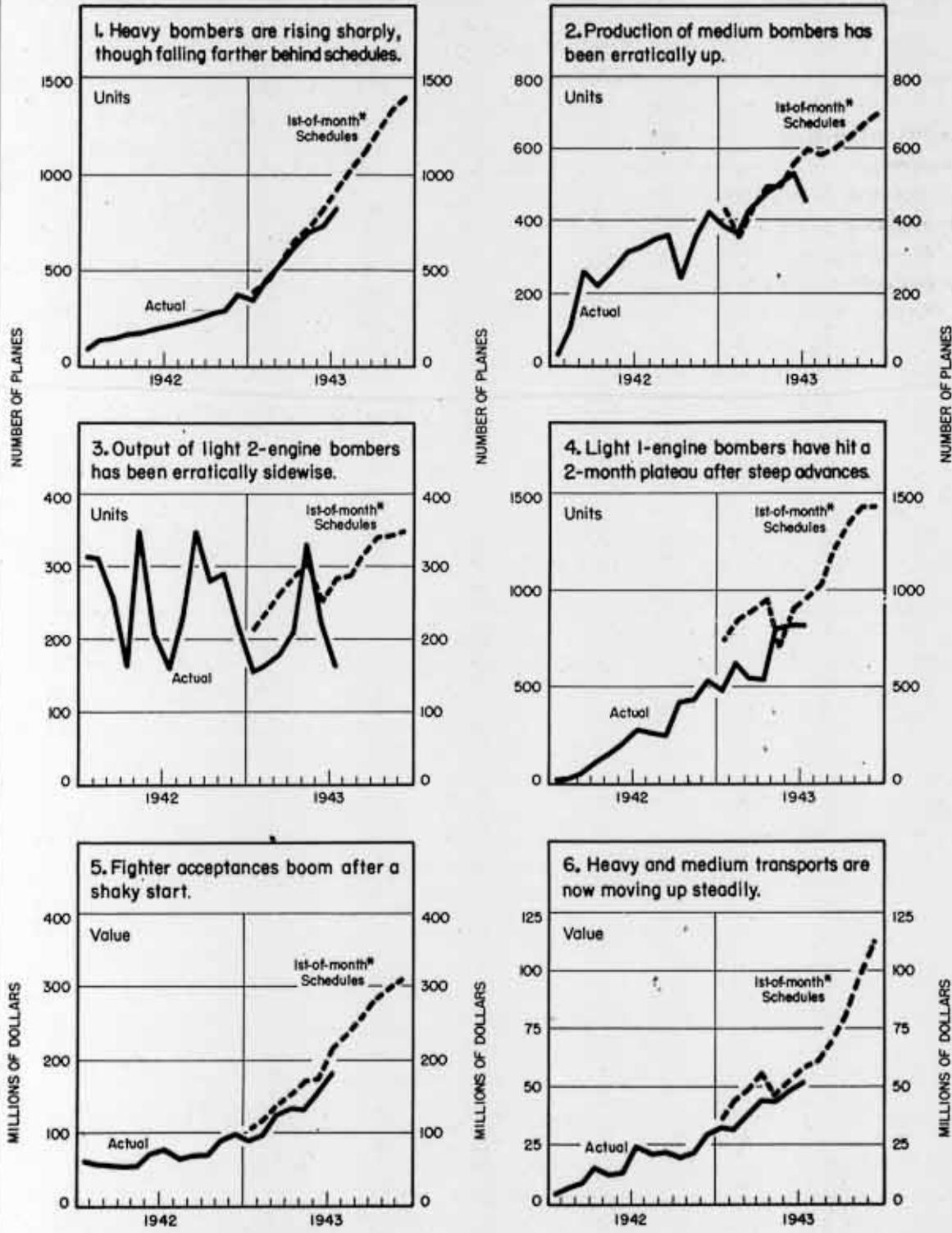
All major groups bettered their June performances, with the exception of trainers and naval reconnaissance planes;

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## THE BOMBERS, THE FIGHTERS, AND THE TRANSPORTS

Production manages to move up, but not so fast as schedules.



1st-of-month schedules through July; W-5 from there on.

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on the other hand, communications planes were the only group to exceed schedule. Results by major groups follow (air-frame-weight basis):

	July Acceptances as % of	
	June	W-4
Combat planes.....	104%	81%
Bombers.....	100	81
2-engined fighters..	148	72
1-engined fighters (Army).....	116	86
1-engined fighters (Navy).....	110	85
Naval reconnaissance	68	46
Transports.....	108	91
Trainers.....	99	99
Communications.....	111	111

Acceptances of patrol bombers were far below expectations: three 4-engined PB2Ys were produced as against 20 scheduled, and 205 twin-engined PBVs against

a schedule of 263. These schedules have recently been reduced in line with the Navy's decision to de-emphasize flying boats in favor of land-based patrol bombers.

A 25%-below-schedule performance in medium bombers was accounted for by two plants: At North American, Kansas City, output of Billy Mitchell B-25s totaled 142 against a goal of 230; this reflected rearrangement of the assembly line. At Glenn L. Martin, Baltimore, delivery of 60 B-26 Marauders compared with 125 under the W-4 schedule; materials shortages, foreseen a few months ago, caught up with output, and inventories ran low.

#### CURTISS SLUMP CONTINUES

For the second straight month, a particular model dominated the poor showing of light 2-engined bombers. Last month some 15 engineering changes slashed production of the Boston (A-20) at Doug-

### KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars).....	1,425	1,474	1,637	1,531	1,074
War bond sales (millions of dollars).....	275	199	209	378	205
Wholesale prices (1926=100)					
All commodities.....	102.8*	102.9*	103.0*	101.8	98.6
Farm products.....	124.3*	124.8*	125.9*	117.7	105.6
Foods.....	106.4	107.0	107.6	105.0	100.1
All other than farm products and foods.....	97.1*	97.1*	96.9*	96.3	95.8
Petroleum:					
Total carloadings.....	57,729	57,344	59,961	50,631	53,090
Movement of cars into the East.....	31,066	32,239	32,218	25,879	26,670
East coast stocks for civilian use (1940-41=100 Seas. Adj.).....	34.9	35.2	31.5	34.5	53.1
Total stocks of residual fuel oil (thousands of barrels).....	66,877	66,992	66,470	70,763	77,485
Bituminous Coal:					
Production (thousands of short tons, daily average).....	2,017	1,967*	768	1,867	1,843
Exports (no. of freight cars unloaded for export Friday, excl. grain)					
Atlantic Coast ports.....	2,580	2,551	2,192	1,306	1,468
Gulf Coast ports.....	335	431	350	310	423
Pacific Coast ports.....	1,304	1,211	1,260	769	287
Unused steel capacity (% operations below capacity).....	1.7	2.0	3.4	0.5	4.2
Department store sales (% change from a year ago).....	+11%	+19%	+39%	0	-6%
p. preliminary      r. revised					

## U.S. MERCHANT SHIP OUTPUT DROPS IN JULY

MERCHANT SHIP completions declined again in July and again failed to meet schedules. Deliveries totaled 156—two fewer than in June and 7% below scheduled 168. A hurricane in Texas delayed delivery of five ships. In deadweight tonnage, output dropped only 5,000 tons to 1,659,000; this was 3% below schedule.

Dry cargo vessel production declined 90,000 deadweight tons, from 1,422,000 in June to 1,333,000 in July. In this group 109 Liberty ships (1,177,000 tons) were delivered, compared to 115 in June and 115 scheduled; standard types, with 16 completed in June, were one ahead of schedule but two behind June. Fifteen tankers were produced as sched-

uled—four more than in June—and tanker tonnage in July was up 34% to 246,000. As in the past, the deficit from schedule was greatest in minor vessels (WP-June 18 '43, p1); 16 were delivered as against 23 scheduled.

For the year, merchant vessel completions now number 959, compared to 1,146 scheduled as of January 1; and tonnage has reached 10,334,000 in comparison with 11,455,000.

In addition to merchant vessels, July output under the Maritime Commission program included one transport and one aircraft transport. With these, tonnage delivered in July mounts to 1,674,000. One corvette failed to come through as scheduled.

las Aircraft's Santa Monica plant; only 100 were accepted compared with a schedule of 220. In June, it was the Baltimore (A-30) at Glenn L. Martin's Baltimore plant.

General Motors at Trenton and Grumman at Bethpage extended their consistent on-the-schedule performance for Avenger torpedo bombers, turning out 251. The Curtiss plant at Columbus, O., did not pull out of its persistent production slump—only 15 SB2C Helldivers were accepted against a schedule of 116. A factor in the showing was the Navy's rejection of a substantial number of these ships. It was not quite so bad with the A-25, the Army's version of this plane: 36 were produced at Curtiss, St. Louis, as against a schedule of 75.

Fighters turned in a spotty performance. Bell Airacobras hit a new high at 503 units, but no improved Airacobras (P-63s) were delivered. Republic at Farmingdale was 30 Thunderbolts ahead

of W-4, although its Evansville plant was 40 behind; reportedly, subcontractors failed to deliver cowlings.

Though North American Mustangs (P-51s) recovered from the poor June showing, when only 20 were delivered, they lagged more than 50% behind the W-4 schedule; 91 were accepted. During July, as in June, delays in Packard Merlin 2-stage engines held up output.

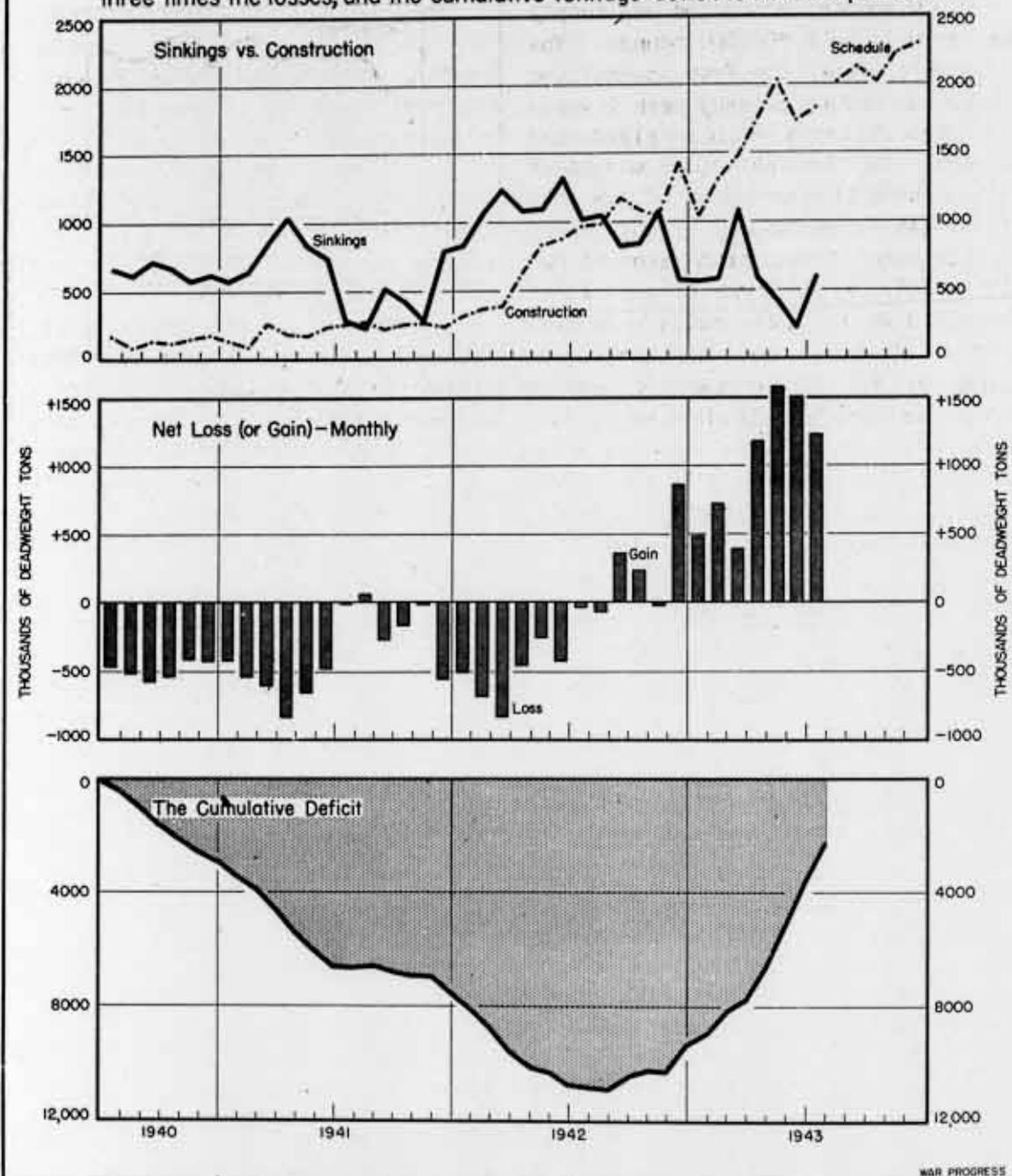
### PLYWOOD ABANDONED

In the Navy fighter group, output of Grumman Wildcats at General Motors' Linden plant declined for the first time since production started last September; here demands for spares were met at the expense of completed planes.

During July, all contracts for the Curtiss Caravan plywood transport plane (C-76) were canceled. Only one of these 2-engined ships had been delivered, but schedules called for 1,200 through 1944. Curtiss Commandos may be substituted.

## SCORECARD ON MERCHANT SHIPPING

Sicilian campaign boosts sinkings of United Nations vessels, but construction is three times the losses, and the cumulative tonnage deficit is all but wiped out.



THE SICILIAN INVASION, LARGEST AMPHIBIOUS OPERATION OF ITS KIND IN HISTORY, NATURALLY RESULTED IN MERCHANT SHIP LOSSES. BUT, EVEN AT THAT, JULY SINKINGS WERE NOT MUCH HIGHER THAN IN APRIL AND MAY. AND LOSSES WERE MUCH SMALLER THAN LAST NOVEMBER, MONTH

OF THE NORTH AFRICAN VENTURE. THIS ALL ADDS UP TO THE FACT THAT THE AXIS IS FINDING IT INCREASINGLY DIFFICULT TO STOP UNITED NATIONS MERCHANT SHIPPING. WITH A NET ADDITION OF 1,200,000 TONS TO THE ALLIED MERCHANT FLEET, THE CUMULATIVE DEFICIT NEARS ZERO.

## Dilemma in Nonferrous Metal Mines

Higher pay elsewhere, bad working and living conditions cause big turnover. Furloughing of army men only partial and temporary solution to problem.

TRYING TO MOVE labor into the nonferrous metal mines is like trying to push a piece of string. You have neither law, economics, nor social conditions on your side.

Not only is the pay low compared with shipyards or airplane plants, but the mines are in out-of-the-way locations without urban conveniences or social life. Housing is not plentiful and in many cases none too good. Work is hard and oftentimes unpleasant. And there is no law to compel workers to go into the mines.

### MERCURIAL MANPOWER

That explains the high turnover; why for every 100 men now at work in copper, zinc, lead, tungsten, molybdenum, and other nonferrous mines, 19 more are needed. And the shortages are not confined to particular types of mines; they're general:

	June 1943		
	Men Employed	Labor Shortage	% Increase Required
Copper.....	30,100	4,300	14%
Zinc-lead..	22,150	4,700	21
Tungsten...	1,700	550	32
Molybdenum.	1,050	400	4
Chrome.....	650	250	38
Venadium...	1,250	150	12
Manganese..	390	50	13
Mercury....	1,500	600	40
Total.....	58,790	11,000	19%

To help relieve this shortage, the Army is furloughing 4,500 men (WP-July

23' 43, p1), to be distributed as follows:

Type of Mine	Allotment of Furloughees
Copper.....	3,240
Zinc.....	1,025
Molybdenum.....	235
Total.....	4,500

But this is less than a halfway measure; it still leaves a 6,500-man gap. Moreover, there is no assurance that the furloughees will stick. Back in October, 4,200 soldiers were released for mining, but many decided after working in the mines that they'd rather be in the Army. The problem is epitomized in the statistics. From March 1 to May 1, separations from nonferrous mines amounted to 9,695; hirings totaled 7,630. Net loss: 2,065, or 3% of total employment in two months.

### MORE COPPER, MORE MEN

In the face of numerous social and economic distractions from mining, the War Production Board is trying to make the best of a rapidly deteriorating situation by using miners where they produce most. To this end, productivity-per-man-per-mine statistics have been developed. As an instance, they show that the Phelps Dodge United Verde mine at Jerome, Ariz., has a productivity of 4.29 tons of copper per man monthly, as against the 1.16 tons at the Control Mines, Oracle, Ariz. Therefore, United Verde will be given a higher manpower preference than Control.

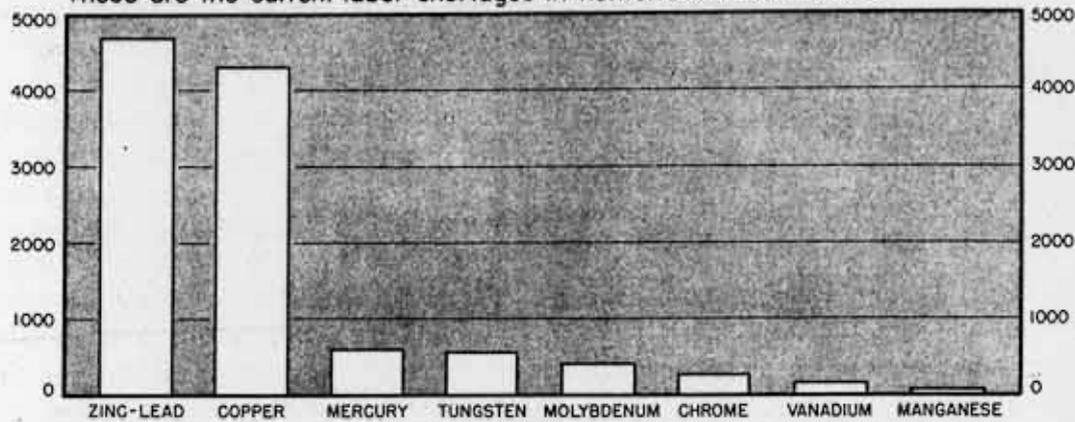
### NONCOMPLIANCE

In addition to productivity, mines are classified according to the critical importance of their products: In Group

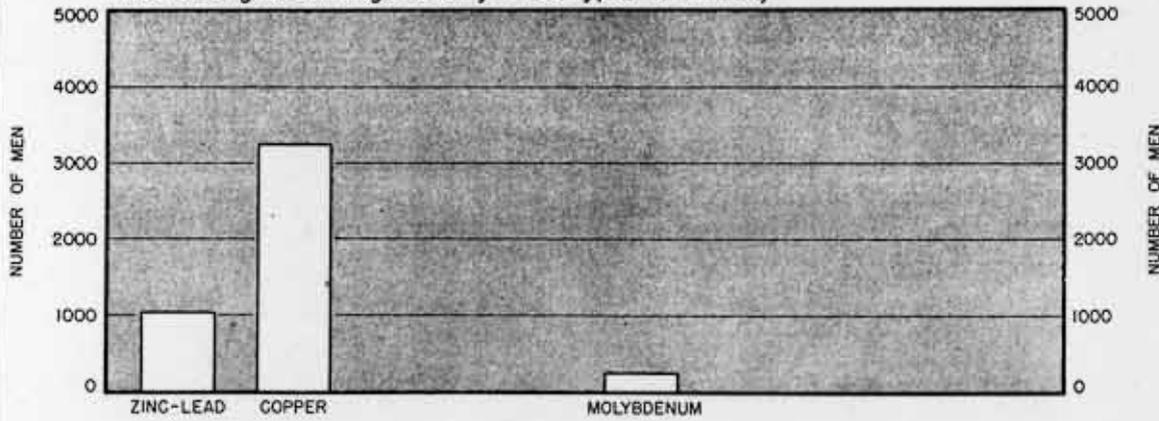
### CLEARLY, FURLOUGHS ARE NOT ENOUGH

Though 4,500 soldiers are being furloughed this month to nonferrous metal mines, this is less than half the current shortage, and no solution of the long-term problem (page 7).

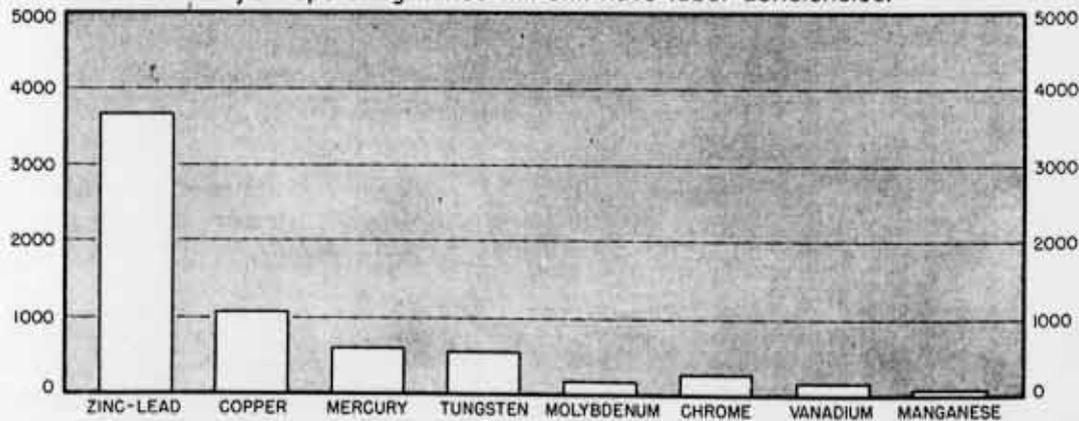
These are the current labor shortages in nonferrous metal mines:



The furlougees will go to only three types of mines;



And after that, all operating mines will still have labor deficiencies.



1 are metals which are in short supply:

Aluminum	Molybdenum
Cadmium	Vanadium
Bismuth	Tungsten
Tin	Chromium
Copper	Nickel
Zinc	

In Group 2 are metals in sufficient supply for war and other essential needs:

Magnesium	Silver
Mercury	Cobalt
Platinum	

In Group 3 are metals available in large enough quantities to permit their use as substitutes for scarcer metals:

Antimony  
Lead  
Gold

Using productivity and essentiality as standards for judgment, mines are then subdivided into four classes:

Class 1. Mines most important to the war economy.

Class 2. Essential mines of lesser importance.

Class 3. Mines aiding the war effort, but not so essential as those in Class 1 or Class 2.

Class 4. Mines whose contribution to the war effort is minor in relation to manpower and materials needed.

#### PRIORITIES TO PRODUCERS

To concentrate manpower into Class 1 and 2 mines, these policies have been adopted: The War Manpower Commission and the U.S. Employment Service are recruiting workers primarily for Class 1 and Class 2 mines, and can take them away from Class 4 mines. New workers unwilling to work in Class 1 or Class 2 mines may be allowed to work in Class 3 mines. But workers in Class 1 or 2 mines will not be allowed to leave for

work in the Class 3 or Class 4 mines.

As a further indirect means of shunting workers into high-productivity mines, federal loans may be withheld from mines producing insignificant quantities of critical metals; priorities on equipment may be denied unproductive mines; draft deferments are granted mine workers in Class 1 and 2 mines. And, as a direct measure, some nonessential mines have actually been ordered closed—the gold mines, for example, under L-208. But these policies generate political pressures on WPB's Office of Manpower Requirements. For example, a gold or silver mine producing some by-product copper or zinc will try to get itself classified as a Class 1 or 2 mine.

#### DIPLOMATIC PROBLEM

Additional labor-getting measures are being adopted, such as:

1. Persuading former miners in shipyards and airplane plants to return to the mines.

2. Trying to bring in inexperienced workers from labor-surplus areas.

3. Importing Mexican labor. This is a diplomatic problem. Several attempts have been made to bring Mexicans over the border. The peon is considered a natural-born miner. The State Department has gone so far as to certify 2,000 Mexicans for entry into the United States. But some mines in the Southwest pay Mexican miners less than American workers, and the Mexican government has refused to sanction a migration unless these differentials are wiped out. The mine operators demur at this. To undo the differential would jump the pay of many Mexicans already at work. Preliminary steps have been taken to remove this obstacle.

4. Increasing wages and improving working conditions.

5. Tightening the "labor freeze" on

miners. (The Employment Stabilization Order of September, 1942, met widespread noncompliance. However, turnover may be slowed down by a new system requiring certificates of separation.)

But all these measures fly in the face of normal economic incentives. In a laissez-faire labor market you cannot bind men to their work when pleasanter jobs, higher pay, and better living conditions beckon elsewhere. Thus the overall nonferrous mine manpower shortage re-emphasizes the problem posed by the copper mines alone: that in a war economy freedom of choice does not put workers where you need them most.

## Mica: Mother of Motion

This mineral is an essential ingredient in condensers, radio tubes, magnetos and spark plugs. Without it no plane could fly, no radio sing. Demand outruns new supply.

TO MOST PEOPLE, mica is the isinglass that used to glow in the old "base-burner." But to electrical engineers, it is the staff of motion. Without it, no plane could rise, no sub could submerge, no radio could send or receive, and no motor could turn.

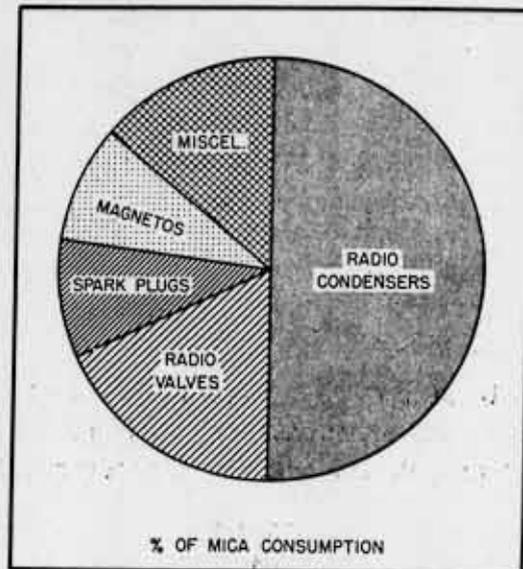
As a nonconductor of electricity—resistant to fire, water, acid, and thermal shock, mica is an essential ingredient in condensers, radio tubes, magnetos, spark plugs, etc.; hence mica is indispensable to the war effort.

There are many micas. In fact, mica is a group name for a whole assemblage of complex aluminum silicate minerals capable of being split into thin, flexible, tough sheets. It is mined in "books," and a book the thickness of a deck of cards can yield 1,000 splittings.

Mica is of many grades, qualities, forms, and preparations, but the principal strategic mica is muscovite, clas-

### WHERE MICA GOES

Largest use is in radio condensers (50%); next in radio valves.



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sified as (1) Clear and Slightly Stained, (2) Fair Stained, and (3) Good Stained—all of them commonly referred to as "Good Stained and Better." Most critical war production requirements fall in these three groups.

And there's the rub. While stocks on hand of block mica of all grades constitute a fairly comfortable supply on a pound basis, Good Stained and Better grades are hardly more than a week to several months ahead of demand. The reasons are (1) variations in the quality of mica shipments, (2) constantly changing requirements, and (3) insufficient supplies of some critical types.

### REQUIREMENTS MOUNT

New developments in aircraft magnetos, for example, mean new requirements for mica. While substitutes such as ceramics, glass, oiled paper, etc. are constantly being approved, new demands for the mineral itself crop up. And expansion in the aircraft and signal equipment programs impose an especially

heavy load in the second half of this year.

Estimated consumption for 1943 of Good Stained and Better is approximately 3,250,000 pounds; estimated new supply for '43 will be 2,686,000 pounds. The difference must come from accumulated stocks, which have already been lowered by a steadily unfavorable supply-demand balance. In the last nine months of 1942, consumption ran ahead of new supply by 14%. From January through March of this year, consumption exceeded supply by 34%. From April through June, however, imports increased, consumption dropped slightly, and the excess declined to 3%. The pickup in imports was due to a quickening of movement from foreign sources, rather than to increased foreign production.

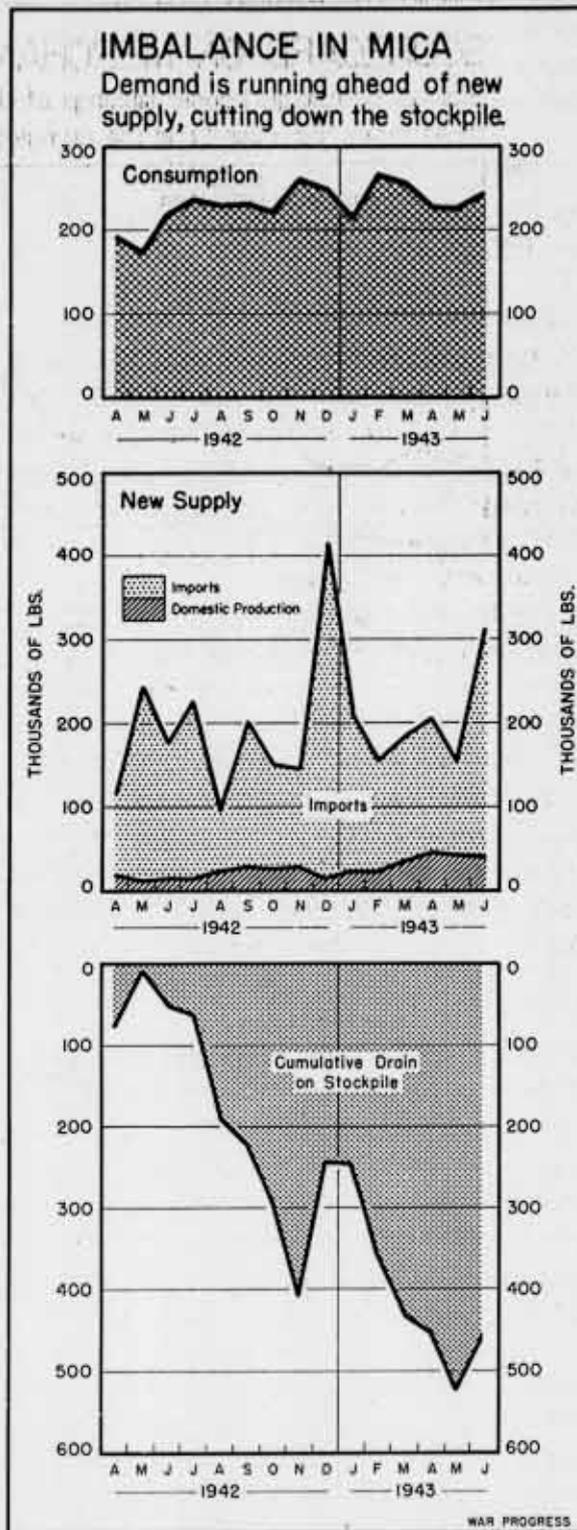
FROM MANY LANDS

Mica, like quartz (WP-July 16 '43, p7), is an air-borne mineral. The principal foreign sources, accounting for 85% of supply, are India, Brazil, and Africa, with small amounts from Canada, Peru, and Bolivia.

Air shipment of mica from India started in May, 1942, when it was felt that mica was the most critical foreign mineral warranting such safe transport, and it has been a part of every air cargo since. From a first shipment of 5,500 pounds, the volume had increased to 215,000 pounds last June. There is more cargo space, but not more mica.

In October, 1942, air shipments from Rio de Janeiro were started with 82,000 pounds and had risen as high as 240,000 pounds in May. In February of this year, 75,000 pounds were brought in by air from Africa; in June the cargoes had increased to 437,000 pounds.

Domestic supply—again like quartz—is limited and costly to obtain. Its price of \$5.00 a pound compares with



LARGE MICA RESERVES BRIDGED THE DEMAND-SUPPLY GAP OF 500,000 POUNDS OVER THE PAST 15 MONTHS. WITH RESERVES LOWER, MICA REMAINS CRITICAL, BUT CONSERVATION, REDUCED TRANSIT TIME OF AIR-BORNE IMPORTS, AND HIGHER DOMESTIC OUTPUT SHOULD TIDE US OVER.

the foreign cost of about 70 cents. In spite of the high-cost domestic operations, the number of U.S. mica mines has risen from 43 a year ago to 475 today. But the mines are small and total output is only 40,000 pounds per month, compared to imports ranging around 200,000 pounds.

#### PROMIKA

Mica has been dogged by troubles since the beginning of the war. Early in 1942, equipment was requested for mines in India, but it has only recently been shipped; India—with Japanese troops on the border—wasn't considered a good investment last year.

In Brazil, quartz was given preference, and until four months ago no equipment was available for mica. Latest holdup occurred because of the premature announcement of a supposed substitute—Promika, a resin-treated paper. Air transport officers and mica producers who read the announcement concluded that the urgent need for the mineral was over and failed to push it.

#### STRETCHING THE SUPPLY

But despite delays and steadily diminishing reserves, all demands for mica have been met so far. The problems this year are to stimulate both foreign and domestic production, find new substitutes, and promote the use of stained quality, of which there is a good supply.

Requirements have already been relaxed to permit the use of stained quality in spark plugs, radio tube supports, and magneto coil insulation, which formerly used only Good Stained and Better. Laboratories are experimenting with other items using the lower grade, and if the results pass the performance tests, mica may move out of the critical category.

CONFIDENTIAL

## War Progress Notes

### "THE PLATEAU"

WAR EXPENDITURES for July fell \$1,000,000,000 below the June figure, but approximately half of the decline reflects technical bookkeeping adjustments. Although the rest of the drop remains unexplained officially, it may possibly be tied in with the "leveling off" of the munitions production and war construction programs.

In July, \$6,432,000,000 was spent for "war activities," compared with \$7,469,000,000 for the June peak, and war expenditures were at their lowest level since February, 1943.

The June figure was abnormally high because it reflected adjustments of about \$500,000,000 made between certain receipt and expenditure accounts. Of this amount, \$250,000,000 was accounted for by a payment by the Federal Surplus Commodities Corporation to the Commodity Credit Corporation in reimbursement for agricultural commodities previously procured in connection with the Lend-Lease program.

### RETAIL SALES

DIVERGENT TRENDS in retail sales and inventories augur a squeeze: The nation is drawing down its stockpile.

In June retail sales climbed to \$5,300,000,000, only 4% below the scare-buying peak in February. (In February, announcement of shoe rationing sent consumers on a clothing spree.) Inventories, on the other hand, are down from a peak of \$7,600,000,000 last July to \$5,400,000,000, and amount roughly to one-month's sales (chart, page 13). A year ago, inventories amounted to 1.7-month's sales.

Despite the high dollar total of sales, physical volume of goods moving

across the retail counter is 16% below the wartime peak. In August, 1941, sales amounted to nearly \$5,000,000,000, but prices were 26% lower than they are today.

**MOVING THE OCEAN**

YOU can't take sea water into your plant, drain it of its magnesium content, pour it back into the ocean at the same spot and then repeat the process with the same results.

That's why, to prevent dilution of "its" ocean, the Dow magnesium plant in Texas, which processes 50,000 gallons of sea water per minute to produce 10,000,000 pounds of magnesium monthly, pumps the processed water into a canal that carries it back to the ocean miles away from the plant.

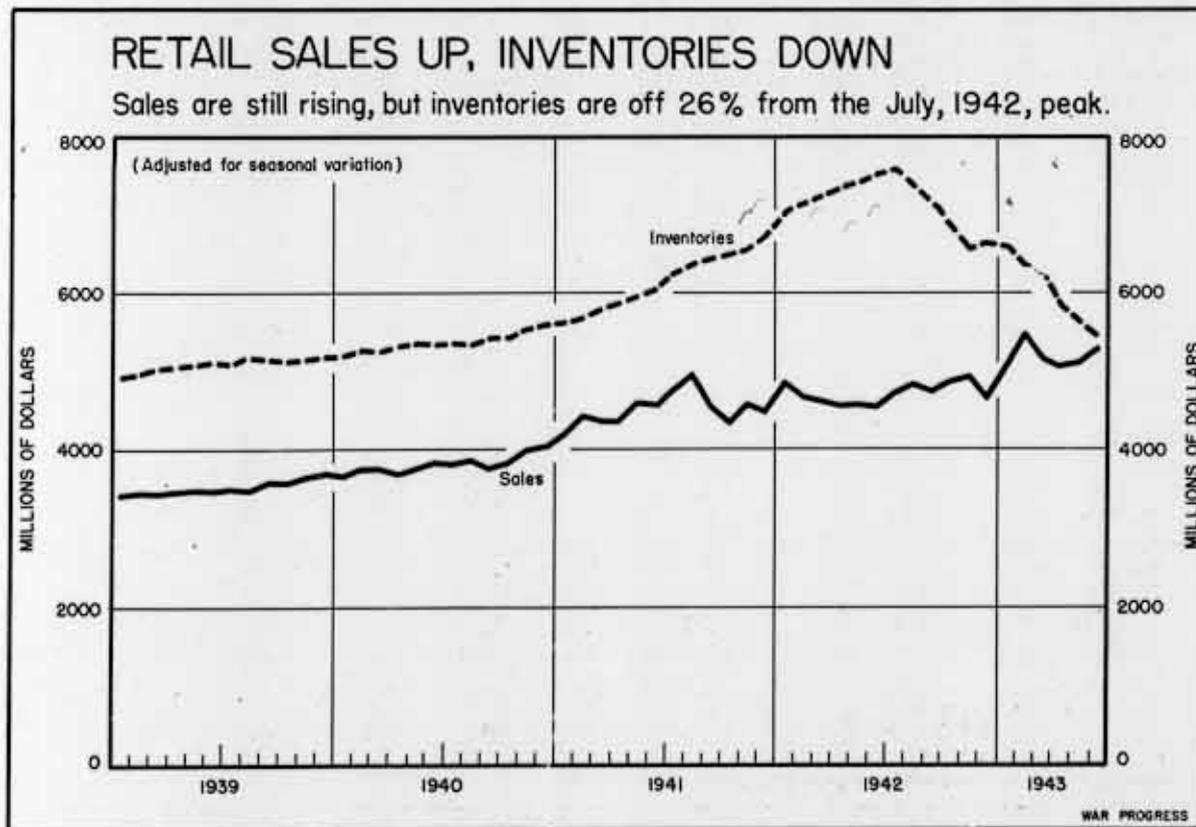
The percentage of the nation's magnesium derived from sea water and brine (pumped from underground wells) is drop-

ping rapidly although production from these sources is steadily increasing. This is because mineral processes, employing dolomite, magnesite, and brucite, and requiring considerably less electric power and equipment, have soared into the lead in the production of the metal, as follows:

Sources	% of Production		
	1942	1943	Peak
Sea water*.....	66%	35%	25%
Brine*.....	20	12	15
Minerals.....	14	53	60

\*A few plants also use minerals.

Production of magnesium in the U.S. has risen from 100,000,000 pounds in 1942 to an anticipated 400,000,000 pounds this year. At peak, output is expected to run at an annual rate of 600,000,000 pounds.



## REPORTS ON REPORTS

## Bed and Board

How private enterprise in Great Britain, worker participation in Russia, and government control in Germany cope with basic wartime social and economic problems is analyzed in *Housing, Feeding, and Transportation Facilities for War Workers in Great Britain, Germany, and Russia* (restricted; pp. 11).

(War Manpower Commission, Bureau of Program Requirements)

## Army's Goal

More than 2,609,000 men from the country's nonagricultural labor force and 250,000 from agriculture must go into the armed forces this year if the latter's objective of a 3,800,000-man increase during 1943 is to be met, according to estimates in *The Differential*

*Impact of Selective Service upon Industry, 1943* (confidential; pp. 17). Assuming that half of the physically fit men in nonagricultural industries will receive occupational deferments, the report estimates that 944,000 of the nonagricultural workers must come from manufacturing, 78,000 from mining. (Department of Labor, Bureau of Labor Statistics)

## Package Problems

*Containers* (confidential; pp. 14) summarizes production and demand problems for glass jars, tin cans, steel drums, wooden and paper boxes.

(Department of Commerce, Bureau of Foreign and Domestic Commerce)

[This record is an attempt to select from the many documents coming to the attention of WAR PROGRESS those studies which would be of most interest to readers. The list is by no means comprehensive, and no attempt has been made to evaluate reports for accuracy. Whether reports are available depends on the policy of each individual agency.]

## SELECTED MONTHLY STATISTICS

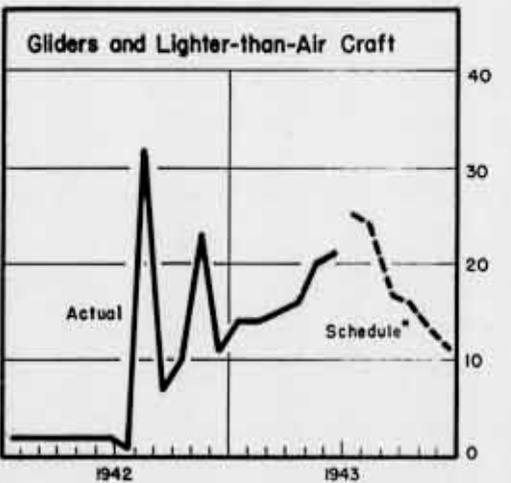
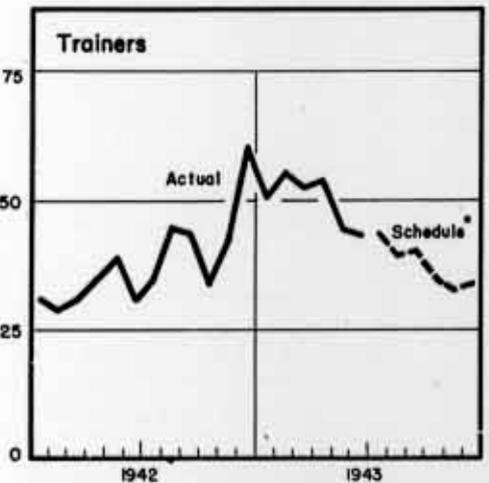
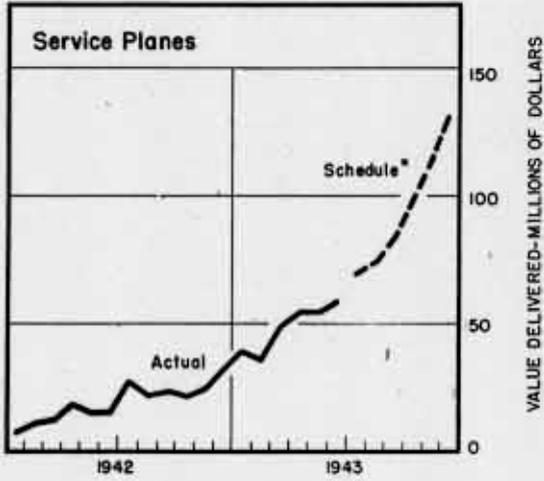
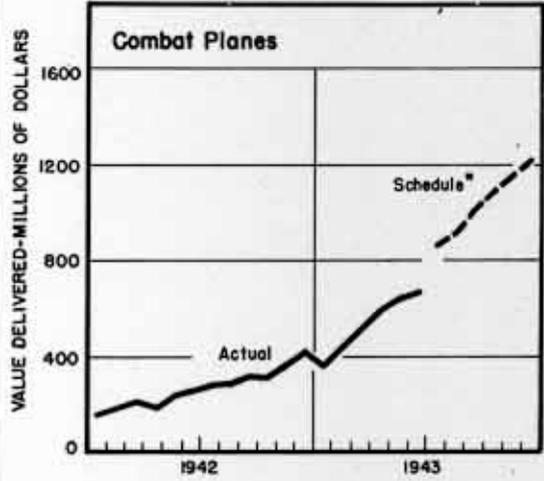
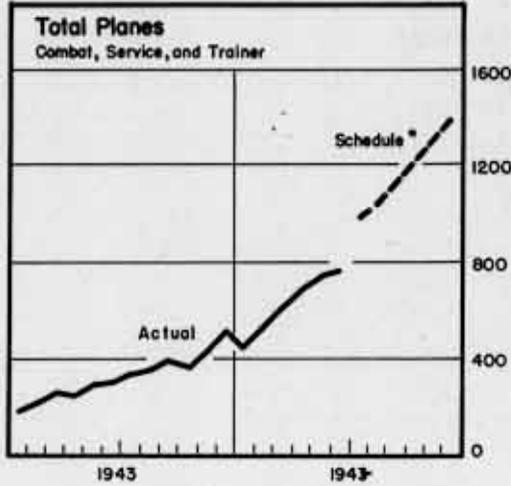
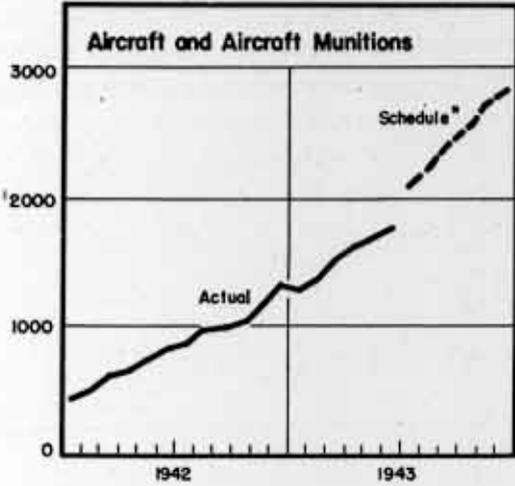
## Federal Finance—Income Payments

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
<b>FEDERAL FINANCE (GENERAL FUND)</b>							
Expenditures—Total (billion dollars)	7.1	8.3	7.4	6.4	5.2	.8	.6
War	6.4	7.5	7.1	6.0	4.5	-	-
Nonwar	.7	.8	.3	.4	.7	.8	.6
Revenues—Total	2.0	4.6	1.5	.8	.7	.3	.4
Income Taxes	1.3	3.8	1.0	.3	.2	.1	.1
Other	.7	.8	.5	.5	.5	.2	.3
War Bond Sales	.9	.9	1.3	1.2	.9	-	-
"E"	.7	.7	1.0	.8	.5	-	-
"F" and "G"	.2	.2	.3	.4	.4	-	-
Net Debt	132.9	127.2	123.2	103.3	73.8	38.2	34.1
<b>INCOME PAYMENTS—TOTAL (million dollars)</b>							
Salaries and Wages	12,162*	11,138	11,240	11,608	9,727	6,025	6,334
Mfg. mining, agriculture, constr.	8,406*	8,245	8,127	7,748	6,592	3,824	3,974
Government	6,610*	6,467	6,369	6,197	5,422	3,117	3,339
Military	1,794*	1,774	1,751	1,528	1,117	542	494
Nonmilitary	851*	854	819	673	380	37	32
Other	943*	940	932	895	737	505	462
Other income payments	2*	4	7	23	53	165	145
Income payments, annual rate (adjusted for seasonal, billion dollars)	3,756*	2,893	3,113	3,860	3,135	2,201	2,356
	142.1*	140.2	139.3	129.9	113.9	70.5	74.4

\*Federal Finance, July; Income Payments, June. p Preliminary.

### PRODUCTION PROGRESS

#### Aircraft and Aircraft Munitions

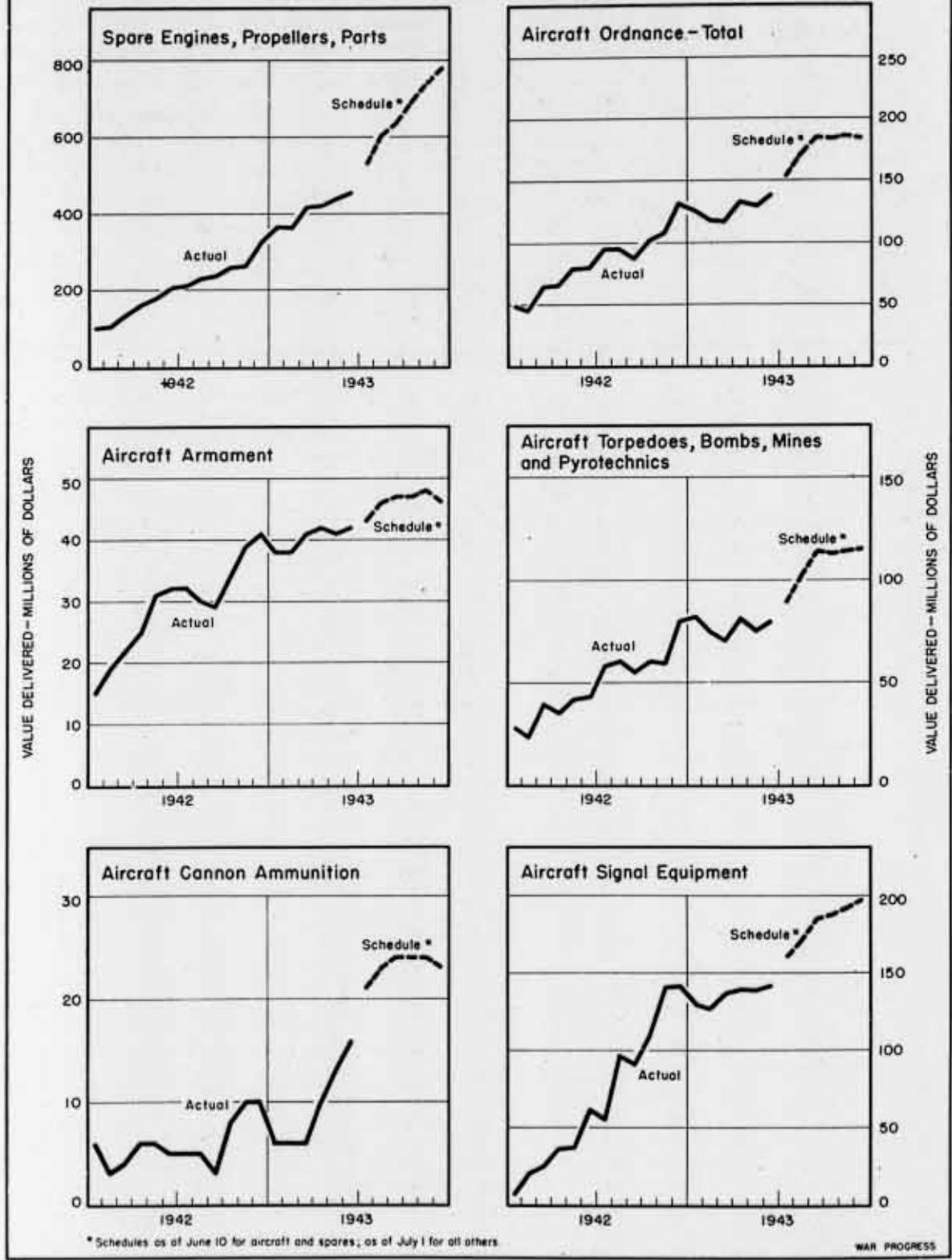


\*Schedules as of June 10 for aircraft and spares, as of July 1 for all others.

WAR PROGRESS

### PRODUCTION PROGRESS

Aircraft and Aircraft Munitions (continued)



CONFIDENTIAL

WAR PROGRESS

The President

# WAR PROGRESS

*Confidential*  
*(British Secret)*

CLASSIFIED  
E.O. 11652, Sec. 1.4, and 1.5(a) of 135  
Declassify on: OADR, 50 USC 1.457A  
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## War Output: Off the Plateau?

Number 152

August 14, 1943

## Production Shakes Loose from Plateau

July output, up 4%, raises munitions total for year to \$33,000,000,000, with only five months left to reach \$65,000,000,000 goal. Construction declines 9%.

WAR OUTPUT moved off its three months' dead center last month. Munitions production amounted to \$5,280,000,000 (preliminary), or \$210,000,000 more than June. The gain—4%—was not large in view of the virtual standstill in output during May and June.

July carried production through the year's halfway mark. At \$33,000,000,000, munitions were a shade more than half the \$65,000,000,000 estimate long regarded as a reasonable prospect for 1943 (WP-July 30 '43, p1). Thus there is to do in the next five months almost as much as in the last seven months. And recent events don't cast hopeful shadows.

### WILL TAKE MUCH DOING

To turn out \$32,000,000,000 of munitions in the next five months, would require gains of about \$350,000,000 per month. Since the start of the year, gains averaged around \$150,000,000.

To put it another way, monthly production would have to average \$6,350,000,000, or some 20% above the July level. And what has happened so far this year hardly suggests that from August through December a monthly rate of that magnitude will be attained. A more likely prospect is an average of \$5,750,000,000 per month, which would yield \$62,000,000,000 of munitions for 1943.

And even that lower level will take

doing. To achieve it, monthly production will have to rise to at least \$6,000,000,000 before the end of the year. That, compared with \$5,280,000,000 last month.

Here's the score on the year to date:

	Munitions Output	Change from Preceding Month (millions)
January....	\$4,045	-\$325
February...	4,274	+229
March.....	4,662	+388
April.....	4,953	+291
May.....	4,959	+6
June.....	5,070	+111
July.....	5,280	+210

Again last month production was hampered by hot weather, labor shortages, vacations, and the general industrial hesitation after 20 months of production strain following Pearl Harbor. Fatigue setting in simultaneously with good news from the battlefield undoubtedly has caused a letdown among workers and management this spring and summer.

### LABOR PROBLEM AGAIN

Increasingly, labor is becoming a constricting factor in production. (It is to output today what materials were last fall.) This is especially true on the West Coast, where shipyards, aircraft factories, and lumber camps vie for workers. And yet, schedules call for a rise in production in the very plants which are failing to meet current goals because of labor shortages. Ultimately, it may be necessary either to import workers to these critical

areas or withdraw contracts. This is an up-and-coming problem.

All major groups except merchant ships shared in the monthly gain, as follows:

Aircraft and munitions.....	6%
Ground army munitions.....	6
Naval ships, etc.....	3
Merchant ships.....	nil
Misc. munitions.....	2

War construction followed its scheduled downward course—off 9% from \$1,010,000,000 to \$920,000,000. Thus the overall program—munitions and war construction—amounted to \$6,200,000,000.

**Aircraft**

Aircraft dominated the month's production showing. At \$1,875,000,000, aircraft and related munitions in July moved 6% ahead of the preceding month and accounted for 31% of all munitions and war construction; that compares with around 29% in June and 19% a year ago. By December, the aircraft-and-related-munitions group is scheduled to comprise 40% of the program.

Acceptances of airplanes alone were higher than in June, but trailed the first-of-the-month (W-4) schedule by a substantial margin (WP-Aug7'43, pl). There were the usual design changes, alterations of assembly lines, and rejections by the services to contend with; vacations were also a factor. One of the chief bottlenecks was labor.

**DIFFICULTIES DEVELOPING**

As airplane production moves into new high territory, expected increases become more difficult to attain. In the face of rising schedules, plane makers will have to work against thinner margins of materials and skilled labor. Turnover in airplane plants is so high that training workers is a constant problem. Moreover, manufacturers are faced with frequent engineering changes dictated by experience in battle. The end result is that the organization of plane-plant operation has become even more complex; management is not always up to the task of maintaining an unbroken flow of production even when labor and materials are available.

**CONCENTRATED DEFICIENCY**

A noteworthy observation about last month's performance is that most of the deficiency from schedule was concentrated among a relatively small number of producers. Ten plants belonging to six companies—Boeing, Curtiss-Wright, Douglas, Ford, Grumman, and North American—whose share of the airframe weight goal was 41%, accounted for 64% of the deficit. Curtiss-Wright's three plants were responsible for 16%, though scheduled output was only 7% of total airframe weight.

Related aircraft items were uniformly higher than in June, but all were below schedule, with one exception—aircraft signal equipment, which was

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right on schedule. Aircraft ordnance was 5% ahead of June, but failed to meet schedule by the same margin; other items (spares, gliders, airships, maintenance, etc.) registered a 4% increase over June but were 7% behind the production plan.

**Army Ordnance**

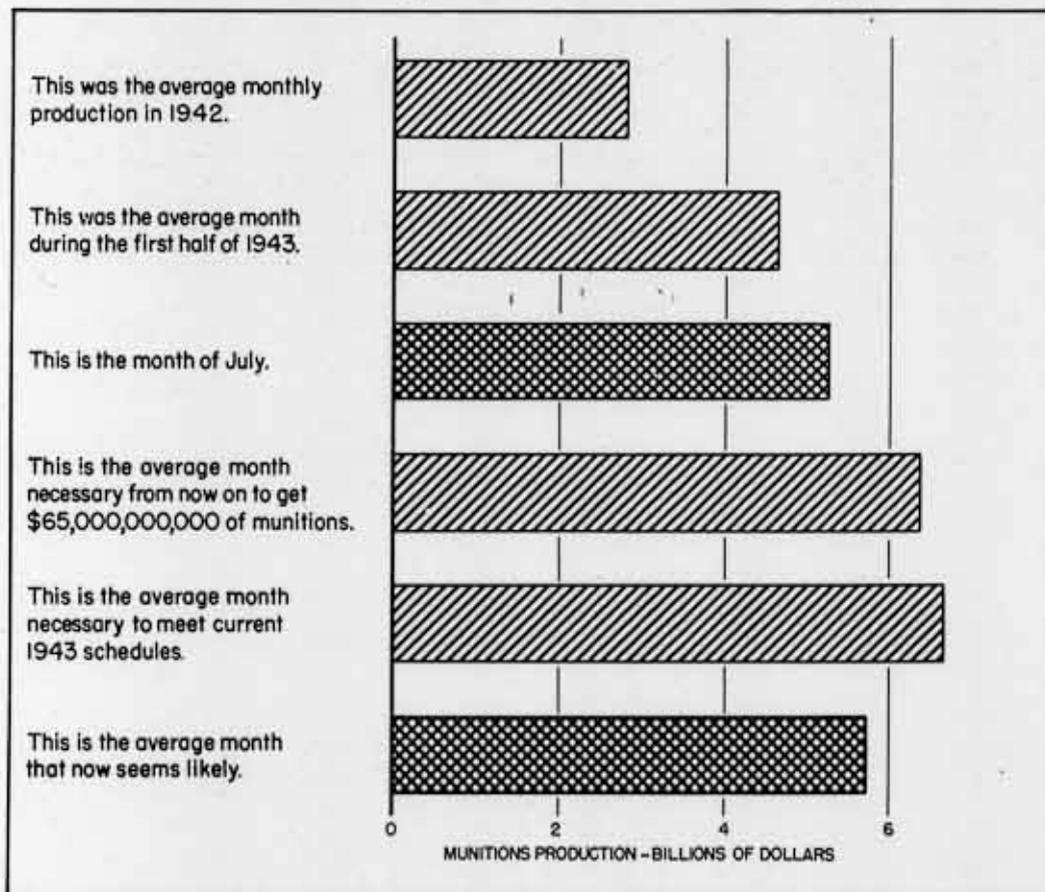
Ground army munitions (including signal equipment) not only increased 6% over June but came out even with schedule and reached a new high. The preliminary total was \$1,130,000,000, compared to \$1,065,000,000 in June.

This was the biggest gain since March, and the first time since March that output reached schedule. Thus ground ordnance perceptibly shook loose from the four months' plateau and resumed its upward course.

To combat vehicles and equipment goes most of the credit for this performance. They rose 12% from June, accounting for more than half of the month-to-month increase. Moreover, they topped schedule by 4%. Since combat vehicles are about at their scheduled peak and facilities are generally ample, the problem here is to keep production down

**PRODUCTION - THROUGH THE FUTURE GLASS**

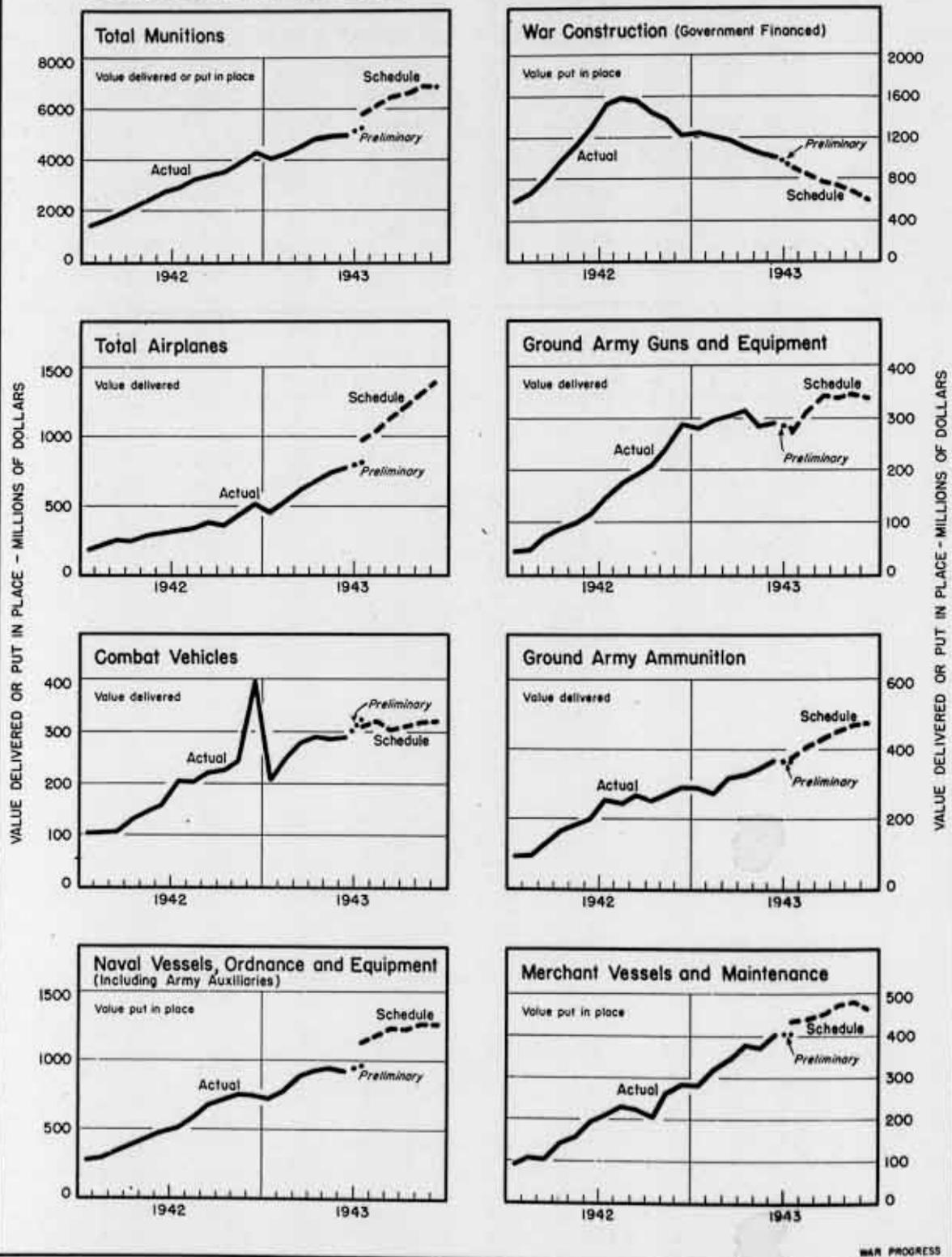
What we've done and what we've got to do to meet the 1943 munitions goal.



WAR PROGRESS

### MUNITIONS OUTPUT MOVES OFF THE PLATEAU

4 % gain over June, however, is not enough to reach '43 goal; airplane and naval groups reach new highs.



to schedule. Tanks come under the head of a "licked" program.

Medium tanks—the M4 series—with 2,165 produced, were 7% above June and 8% above schedule; and light tanks of the M3 and M5 series exceeded June by 9% and schedule by 4%, with a total of 826. Half-track personnel carriers made an even better record—19% above June. Medium armored cars, on the other hand, suffered a 13% decline from June. But the M8 light armored car leaped 203%, to 512. This job has lagged consistently. In June, for instance, 169 were delivered as against 400 scheduled. A new light armored car—the M20—came in with 126, one over schedule.

The 75mm. gun for tanks equaled both schedule and the previous month's total, but not so with command radio SCR-528 for combat vehicles; only 75% of this schedule was realized, a further example of the difficulties in raising

output of signal equipment in line with needs. Altogether, equipment for combat vehicles, including tank guns, gained 8% from June but missed schedule by 7%.

Guns and equipment (including small arms) ran 3% above schedule. But the schedule called for a fairly substantial drop. And total output, at \$279,000,000, was down 4% from June.

#### 11th HOUR BARRAGE

A surge of acceptances in the final 11 days of July lifted the artillery total. On July 20 only 43% of scheduled artillery (exclusive of antiaircraft) was completed; yet by July 31 the program was above schedule. Not one 105mm. self-propelled howitzer had been delivered at the two-thirds mark; but the full schedule of 75 came through. And more self-propelled 3-inch guns were completed in the last 11 days than in the first 20. All self-propelled guns

### PRODUCTION PROGRESS - Preliminary

Value delivered or put in place - millions of dollars.

	July Preliminary	June Actual	% Change	July Schedule*	% Deviation July Prelim. vs. Schedule
TOTAL MUNITIONS AND WAR CONSTRUCTION	\$ 6,200	\$ 6,080	+ 2%	\$ 6,715	- 8%
TOTAL MUNITIONS	5,280	5,070	+ 4	5,795	- 9
Aircraft and Aircraft Munitions	1,875	1,776	+ 6	2,103	-11
Airplanes, Spares, Equip. and Maint., etc.	1,570	1,496	+ 5	1,790	-12
Aircraft Ordnance	145	138	+ 5	153	- 5
Aircraft Signal Equipment	160	142	+13	160	0
Ground Army Munitions	1,130	1,065	+ 6	1,129	0
Combat Vehicles and Equipment	351	314	+12	337	+ 4
Guns and Equipment (a)	279	290	- 4	272	+ 3
Army Ammunition	368	368	0	374	- 2
Ground Signal Equipment	132	93	+42	146	-10
Naval Vessels, Ordnance and Equipment (incl. Army Auxiliaries)	950	920	+ 3	1,135	-16
Merchant Vessels and Maintenance	405	404	0	436	- 7
Miscellaneous Munitions	920	905	+ 2	992	- 7
WAR CONSTRUCTION (Government Financed)	920	1,010	- 9	920	†

\* As of June 1 for Construction; as of June 10 for Aircraft and Spares; as of July 1 for all others.  
 (a) Artillery and equipment; antiaircraft guns and equipment; small arms and infantry weapons.  
 † Schedule used for preliminary.

wound up July 3% above schedule; wheeled artillery came through even stronger—6% ahead of the dollar quota.

Antiaircraft guns and equipment—still a rising program—exceeded schedule by 6%. But for July there was a temporary dip in schedule, and output, at \$116,000,000, was 6% off from the June total. The 40mm. Bofors, backbone of AA, with 1,179 completed, ran 5% ahead of forecast. Radar searchlight control SCR-268, with 51 sets completed, was 28% above schedule, though far below June. Director M5 was right on the target, with 2,025 sets.

#### EVENT OF THE MONTH

Small arms and infantry weapons contrasted sharply with the better-than-schedule records of combat vehicles and artillery. The \$63,000,000 worth turned out in July missed the goal by 6%. This figure is 3% under June output. Machine guns accounted for a substantial deficit: the .30-caliber, with 10,056 accepted, ran 36% below the June total and 13% under schedule; the .50-caliber hit schedule on the nose with 4,564 accepted, or 6% below June.

Big event of the month was the 25% gain in .30-caliber carbine deliveries. Production here has been beset by bugs and consistently laggard. But output of 228,500 beat schedule by 4%. The Garand (90,700 accepted) and the Springfield (70,190 accepted) both missed schedules by 14%, and both fell below June output.

Ammunition for artillery pieces was almost on schedule—but, with output valued at \$117,000,000, fell off from June by 14%. The 105mm. and 75mm. howitzer HE shells and 75mm. shot and shell fell off from last month by 44%, 17%, and 4%, respectively; yet all exceeded schedule. Three-inch gun shot missed a curtailed schedule by 9%. In contrast,

40mm. HE shells for AA guns stepped up output by 164% and passed their goal. The bazooka rocket, production of which stopped in June, failed to return to production in July and is now scheduled for resumption this month.

Small arms and infantry weapon ammunition rose 8%—to \$251,000,000—and barely missed the target. The 60mm. HE mortar bomb jumped impressively—22% higher than June and 10% over schedule, with 770,000 rounds loaded.

Ground signal equipment (other than that included in the cost of guns and their equipment) came closer to schedule than in any month since April, missing by only 10%. Last month output fell short of forecast by 27%. The monthly rise in deliveries was 42%, to \$132,000,000, and was fairly general. Warning radar SCR-270 came through with 36 sets, after dropping out completely in June. Interception radar SCR-527 and 627 were exactly on schedule with 28, a 75% rise from June.

Miscellaneous munitions (not included in ground army munitions), at \$920,000,000, were above June. Motor vehicles were a weak spot—only 92% of schedule. One-and-a-half-ton trucks missed schedule by 20%, quarter-ton trucks (the ubiquitous jeep) by 5%, and 2½-ton trucks by 3%. Components are a problem here—transmissions and axles, for example.

#### Naval Ships

The value of work done on naval ships (including naval ordnance and equipment and army auxiliaries) is estimated to have risen slightly during July, reaching a new high for the year at \$950,000,000, or 3% above June.

Deliveries, however—at 185,000 displacement tons—were down 19% from June's record high of 229,000 tons; there was no superdreadnaught "New Jersey" or

## KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program—Checks paid (millions of dollars)-----	1,652	1,425	1,390	1,417	1,039
War bond sales (millions of dollars)-----	147	275	186	182	194
Wholesale prices (1926=100)					
All commodities-----	103.0*	102.8*	103.0*	102.0	98.6
Farm products-----	125.0*	124.3*	126.0*	118.2	105.4
Foods-----	106.6	106.4	107.3	105.0	99.7
All other than farm products and foods-----	97.2*	97.1*	96.9*	96.4	95.7
Petroleum:					
Total corloadings-----	53,169	57,729	58,155	52,721	53,822
Movement of cars into the East-----	27,413	31,066	31,140	25,812	26,145
East coast stocks for civilian use (1940-41=100 Seas. Adj.)-----	34.7	34.9	34.0	34.6	54.5
Total stocks of residual fuel oil (thousands of barrels)-----	66,714	66,877	67,142	71,095	78,316
Bituminous Coal:					
Production (thousands of short tons, daily average)-----	2,017	2,025*	1,725	1,917	1,872
Exports (no. of freight cars unloaded for export Friday, excl grain)					
Atlantic Coast ports-----	2,701	2,560	2,288	1,223	1,627
Gulf Coast ports-----	336	335	360	335	468
Pacific Coast ports-----	1,320	1,304	1,268	888	905
Unused steel capacity (% operations below capacity)-----	1.6	1.7	3.0	0.7	3.5
Department store sales (% change from a year ago)-----	+6%	+11%	-1%	+19%	-5%
p. preliminary    r. revised					

heavy cruiser "Boston" to lift the total. The July showing was about equal to average monthly deliveries in the first half of the year.

All principal groups failed to meet scheduled deliveries—with auxiliaries and transports showing the greatest deficit. Minor combat vessels, which jumped 25% to a new monthly top, were the only group to register a gain over June:

	Deliv- (tons)	% Change from June	% Change from 'Sched.
Major combats	52,000	-48%	-7%
Minor combats	70,400	+25	-31
Landing ves..	48,000	-7	-9
Aux. & trans.	14,600	-35	-43
Total.....	185,000	-19%	-22%

Largest major combat vessel completed was the 11,000-ton aircraft carrier "Cabot." This was followed by

the 6,000-ton light cruiser "Oakland," 13 destroyers (compared with 10 in June), and six submarines (the same number as in June).

## FRIGATES IN THE DOLDRUMS

Paced by destroyer escorts, deliveries of minor combat vessels reached a new high at 70,400 tons; half of this was accounted for by 27 DEs—five more than in June, one more than scheduled. This was a new peak, and further evidence that the DE program is really moving (WP-July23'43,p9). Corvettes and frigates remained in the doldrums—only two of nine scheduled came through. And completion of two aircraft carrier escorts was unchanged from June; four were scheduled.

Although moderately below first-of-the-month expectations, landing and raiding craft scored smart gains over June: 54% and 86%, respectively. But

landing force vessels (LSTs, LSDs, and LCIs), representing almost three-fourths of the landing vessel program, were 21% lower and failed to make schedule by 17%. That was enough to drop the landing-vessel group below June and schedule.

### Merchant Ships

Preliminary figures on the value put in place on merchant vessels showed little change from June. Deliveries, at \$334,000,000 were 4% below both

the scheduled and the June valuation.

Including two barges tardily reported, last month's deliveries (measured in units) duplicated the June total of 158 vessels (WP-Aug 6 '43, p5); this, however, was 10 under schedule. Deadweight tonnage of 1,660,000 was just about even with the previous month, but 3% off schedule. Liberty ships, the biggest item, performed poorly; their \$218,000,000 valuation was 5% under both scheduled and June deliveries.

## CMP's Round 3: Toward Realism

Carbon steel requests still exceed supply, but the margin narrows from 38% to 27%; screening cuts difference to 20%. Military claimants get enough for programs.

EXPERIENCE HAS BEGUN to tell in the operation of the Controlled Materials Plan. Claimant agency requests for allotments of carbon steel—"controlling" controlled material—were far more realistic for the fourth quarter than in the previous round.

Bills of materials submitted were generally lower, "concealed" contingency reserves less frequent, arithmetical errors and duplications fewer. And although requests still exceeded estimated supply by a wide margin—27% overall—they came a lot closer than in the third quarter, when requests ran 38% ahead of the estimated supply.

### BULK FOR MILITARY

And after fourth-quarter requests were screened by WPB's Program Bureau to eliminate errors, overstatements, duplication, etc., the excess over estimated supply was brought down to 20%.

There was the customary over-allotment of 10%. Once again the four military claimants—the Army, Navy, Mari-

time Commission, and the Aircraft Resources Control Office—received the bulk of the total: 45.6% as against 43.6% in the preceding quarter. The Operations Vice Chairman received the largest single allotment—3,322,000 tons—primarily for B products, a large part of which ultimately wind up in military end products. The Army was the next largest recipient. How the carbon steel was distributed follows:

	Allotment (short tons)	% of Total Allotment
Mil. claimants...	7,697,000	45.6%
ARCO.....	272,000	1.6
Army.....	3,210,000	19.0
Navy.....	1,640,000	9.7
Maritime.....	2,575,000	-15.3
Export claimants.	1,947,000	11.5
OLLA.....	1,320,000	7.8
OEW.....	233,000	1.4
Canada.....	394,000	2.3
Nonmil. claimants	6,461,000	38.2
Alum. Magn.....	30,000	.2
WFA.....	685,000	4.1
NHA.....	65,000	.4
PAW.....	510,000	3.0
ORC.....	34,000	.2
Steel.....	55,000	.3
OET.....	1,380,000	8.2

	Allotment (short tons)	% of Total Allotment
OWU.....	255,000	1.5%
OCR.....	125,000	.7
OVC.....	3,322,000	19.6
Other.....	795,000	4.7
MRO.....	750,000	4.4
Cons. reserve....	45,000	.3
Total.....	16,900,000	

Biggest increase over the third quarter went to the Office of Civilian Requirements—21%. This boost was granted on the ground that inventories of essential durable goods and maintenance items were dangerously depleted. But, as the above table shows, the allotment was comparatively small: 125,000 tons—less than 2% of the total. Next came the Maritime Commission, with a gain of 17%—this to take care of an expanding program, also a change-over in model. Introduction of the Victory ship to take the place of the Liberty ship calls for more "lead" time. The period of construction is greater, particularly at the beginning, and the steel must be on the shipway a much longer period of time.

#### MORE FOR MARITIME

The Maritime Commission was one of the two claimants whose final allotments actually exceeded their screened requests. The Program Bureau estimated that the commission's fourth-quarter needs actually would run to about 2,500,000 tons. But the Requirements Committee—after the Army, the Navy, and others agreed to surrender part of their allotments—allowed the Commission 2,575,000 tons, 3% more than the screened request. The allotment to the Navy also was higher than its screened request. The Requirements Committee accepted 155,000 tons of steel as a battle-damage estimate, as against 110,000 estimated in screening.

In all, the allotments to the military claimants were cut a fraction of a per cent of their screened requests. The following table shows how claimant agencies fared in relation to (1) third-quarter allotments, (2) their screened requests:

	% Change From Preceding Quarter	% Change From Screened Request
ARCO.....	-3%	-2%
Army.....	3	-3
Navy.....	8	1
Maritime....	17	3
OLLA.....	5	-23
OEW.....	12	-6
Canada.....	2	-6
Alum.-Magn..	-1	-20*
WFA.....	-25	-5*
NHA.....	-9	-10
PAW.....	2	-10*
ORD.....	-20	No change
Steel.....	-58	-29*
ODT.....	9	-13*
OWU.....	-7	-16*
OCR.....	21	-9*
OVC.....	No change	-16*
MRO.....	-3	-11*
Cons. reserve	—	No change
Total.....	+3%	-9%

\*% change from original request.

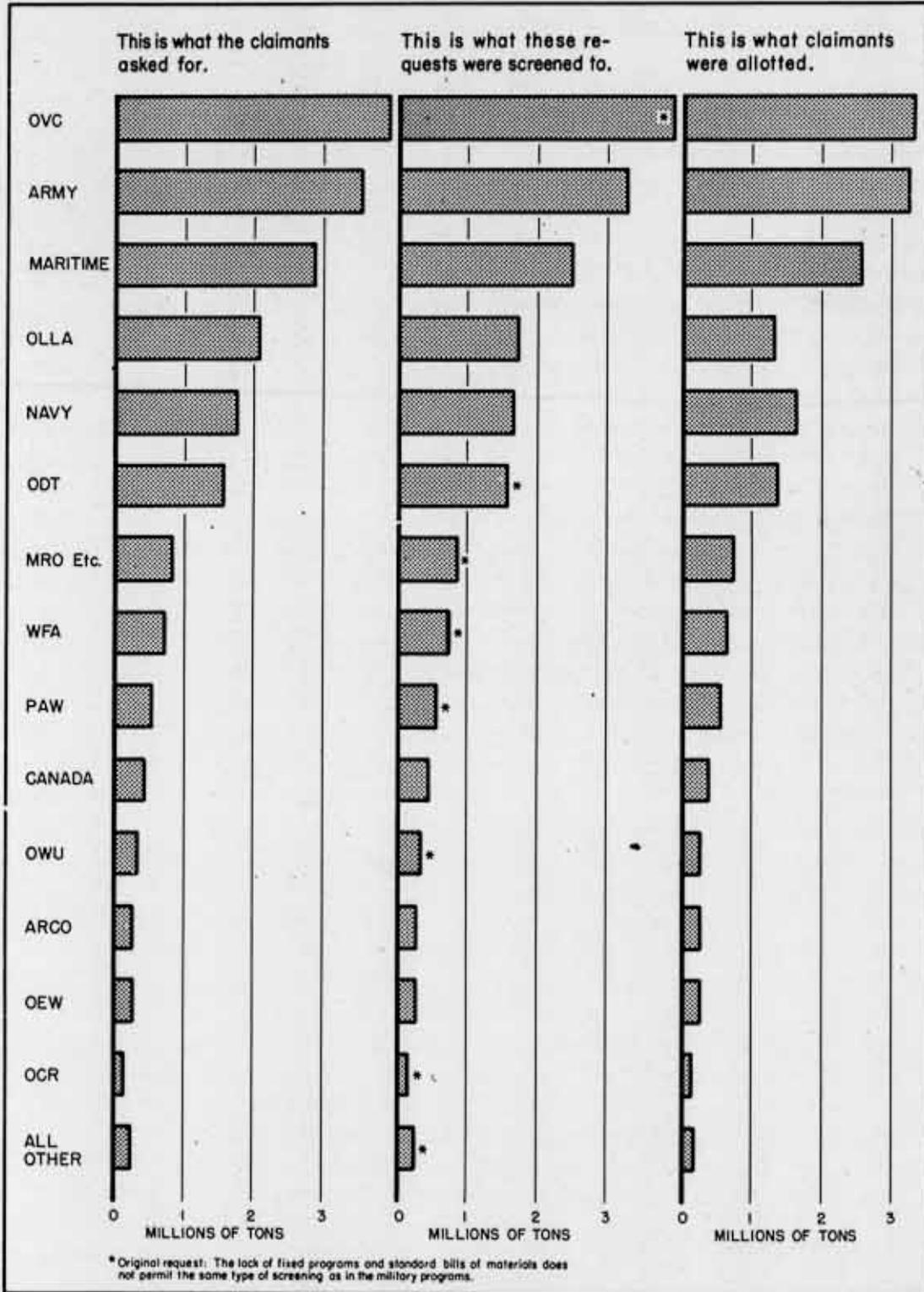
Reasons for cuts varied. The Army's reduction was due in large part to the uncertainty surrounding the steel ammunition program. The Requirements Committee raised the question whether production difficulties would be ironed out sufficiently to use the steel for which they asked.

The reduction in the War Food Administration's allotment as compared with the previous quarter was due primarily to the seasonal decline in the manufacture of food cans.

In the case of the Steel Division,

### CARBON STEEL - BEFORE AND AFTER . . .

The Program Bureau and the Requirements Committee got through with fourth-quarter requests.



\*Original request. The lack of fixed programs and standard bills of materials does not permit the same type of screening as in the military programs.

it was felt that construction of new plants would lag behind schedule.

NHA's request was similarly reduced because construction is expected to fall behind the program submitted, especially since Congress cut NHA's appropriation substantially.

The Office of Defense Transportation's request was reduced because of a cutback in the request for steel for tank cars. It was felt that the addition of pipe lines and the improved prospect for use of tankers to carry oil would help alleviate the oil shortage on the East Coast. There was also a cutback in the water transport program.

ACCEPTED AT FACE VALUE

Except in the case of army ammunition, the Program Bureau and the Requirements Committee accepted schedules of the military claimants at face value, despite the fact that certain programs, such as airplanes, naval ships, and signal equipment, have been lagging far behind schedule; no adjustments were made for estimated future deficiencies. And when the final distributions were announced, the military claimants gave indications that the allotments seemed to be about enough to permit them to meet their programs. This opinion was held despite the fact that in preliminary screening—getting rid of errors, duplications, overstatements, etc.—some of the cuts were severe. The following table indicates the degree to which military and export claimants were screened down by the Program Bureau:

	% by Which Original Requests Were Screened Down
Military claimants.....	-9%
ARCO.....	-2
Army.....	-7
Navy.....	-7
Maritime.....	-12

CMP GAINS TIME

WITH EACH ROUND of the Controlled Materials Plan, claimant agencies have been getting more time in which to (1) readjust programs to their actual allotments, and (2) parcel out allotments to prime contractors.

In the first round, claimants received their principal allotments on February 2, or 57 days before the start of the second quarter; they did not receive their supplementary allotments until March 19, a dozen days before April 1.

In round two, principal allotments were determined on May 3, or 58 days before the July quarter started. Supplementary allotments were made June 3, or 27 days before July 1.

Fourth-quarter allotments, made last week, gave claimants 55 days to pass out suballotments. But this was a real gain. The pie was all served out at one time. There are to be no large supplementary shares.

	% by Which Original Requests Were Screened Down
Export claimants.....	-14%
OLLA.....	-17
OEW.....	-6
Canada.....	-3

A major change in practice was adopted for the fourth quarter. Unlike procedure in the preceding two rounds, no supplementary allotments will be made except for emergency construction from the reserve. And if a claimant agency wants to expand a particular schedule, the necessary steel or copper will have to be drained from some other of its programs.

## Less to the Soviet

June lend-lease exports to Russia lowest for year; tank movement halted; planes, guns, ammunition declining. U.K., India shipments soar to new highs.

SIGNIFICANT CHANGES are taking place in lend-lease exports to Russia. June exports, at \$138,000,000, were the smallest for any month this year—39% below the April high of \$227,000,000. Whereas back in February exports to Russia amounted to 35% of all lend-lease shipments, in June the proportion was only 17%. In 1942 Russia's percentage was 28%.

The decline has been general throughout the munitions list—guns, ammunition, tanks, personnel carriers, trucks, planes. For the second consecutive month, June exports to Russia did not include a single tank. This reflects declining U.S.S.R. requests for tanks. Last November 350 were shipped.

Shipment of other types of vehicles (universal carriers, trucks, and scout cars) to Russia also fell from \$29,000,000 in May to \$18,000,000. In June, Russia's share of lend-lease shipments of tanks, trucks, etc. amounted to only 10%, a sharp reduction from the 50% during the first half of 1942.

Planes, too, have followed a downward course since April:

	Plane Shipments to Russia
January.....	\$21,000,000
February.....	40,000,000
March.....	38,000,000
April.....	55,000,000
May.....	45,000,000
June.....	19,000,000

The largest percentage decline for

June was in guns and ammunition, the Russian total dropping from \$19,000,000 in May to \$1,500,000. This represented only 1% of total shipments in this category, whereas in February the Russians were taking 32%.

In February, Russians were getting 38% of lend-lease planes; in June, only 15%.

The only Russian items to show increases for June were watercraft, up from \$2,000,000 to \$6,000,000; agricultural products, \$28,000,000 to \$32,000,000; industrial products, \$44,000,000 to \$62,000,000. In none of these instances, however, were June figures highest for the year.

### 54% TO UNITED KINGDOM

Lend-lease exports to the United Kingdom reached a new high in June, up \$40,000,000 to \$427,000,000. This was 54% of total lend-lease for the month, and was the first time since 1941 that the United Kingdom has received more than 50%. Agricultural products showed the greatest increase—\$79,000,000 to \$112,000,000.

During May and June, shipments to Britain included 25 merchant vessels—14 coastal tankers, and 11 coastal cargo ships. These were not included in the program announced recently by the President to transfer Liberty ships to England at the rate of about 15 to 20 per month over a 10-month period.

### INDIA IN SPOTLIGHT

Lend-lease shipments to India are booming. June exports amounted to \$65,000,000—double May's \$31,000,000, and five times greater than the \$13,000,000 for April. Increases have been in guns and ammunition, tanks, and agricultural and industrial products.

Total shipments to the entire British Empire were up only \$5,000,000 for June

to \$624,000,000, the boosts to the United Kingdom and India being at the expense of the Middle East, Africa, Australia, and New Zealand.

On the whole, June lend-lease exports were down \$30,000,000 from the record May high of \$821,700,000.

### REPORTS ON REPORTS

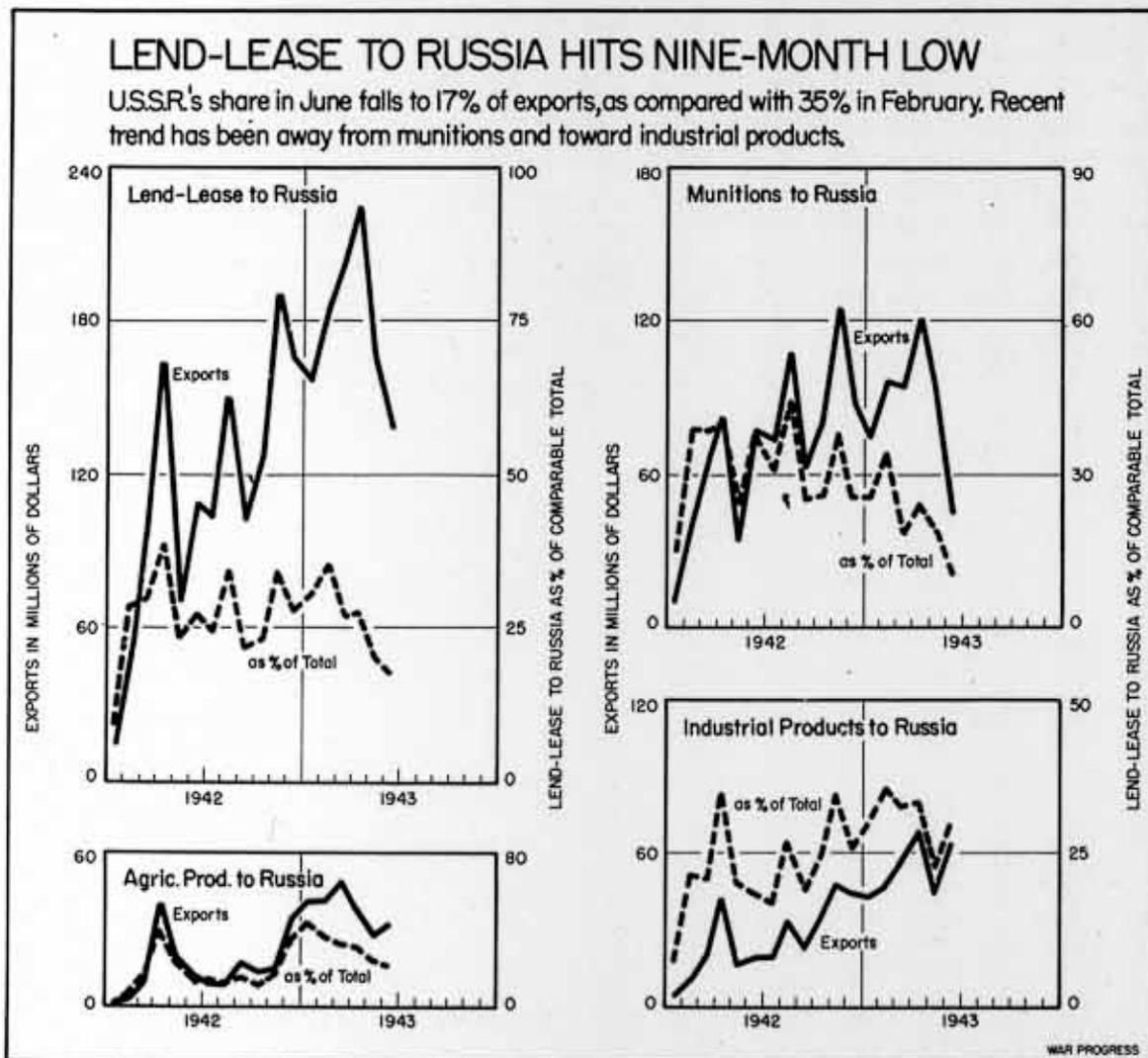
#### Men for Ships

Employment in shipyards must increase from 1,608,000 in April, 1943, to an all-time peak of 1,919,000 by December

in order to meet production schedules, according to *Estimated Labor Requirements for the Shipbuilding Industry* (confidential; pp. 46). The study indicates that turnover is the industry's most serious labor problem, and that employment of women is increasing steadily, particularly in navy shipyards. (Department of Labor, Bureau of Labor Statistics)

#### Manpower Again

Paper consumption must be reduced 21% below current demands in the third



quarter of 1943 and perhaps 26% in the fourth quarter, according to *Pulp and Paper* (confidential; pp. 18). Principal reason: 18% drop in domestic production of wood pulp this year, attributed by the report to shortages of manpower and equipment, and reduced incentives to the industry, caused by price ceilings.

(War production Board, Document 231)

#### Building Decline

*Construction* (confidential; pp. 19) appraises construction in 1943 through the second quarter. Volume, though still large, has declined in accordance with plans, but substitution of non-critical for critical materials is resulting in more building than otherwise would be possible.

(Department of Commerce, Bureau of Foreign and Domestic Commerce)

#### CMP Advances

CMP is operating with increasing satisfaction, according to *Operation of the Controlled Materials Plan* (confidential; pp. 10). Advance scheduling and stabilization of delivery dates have reduced activity of the "squealometer." The memorandum outlines present problems and plans for solving them, particularly in the case of B products. (War Production Board, Document 236)

[This record is an attempt to select from the many documents coming to the attention of WAR PROGRESS those studies which would be of most interest to readers. The list is by no means comprehensive, and no attempt has been made to evaluate reports for accuracy. Whether reports are available depends on the policy of each individual agency.]

## SELECTED MONTHLY STATISTICS

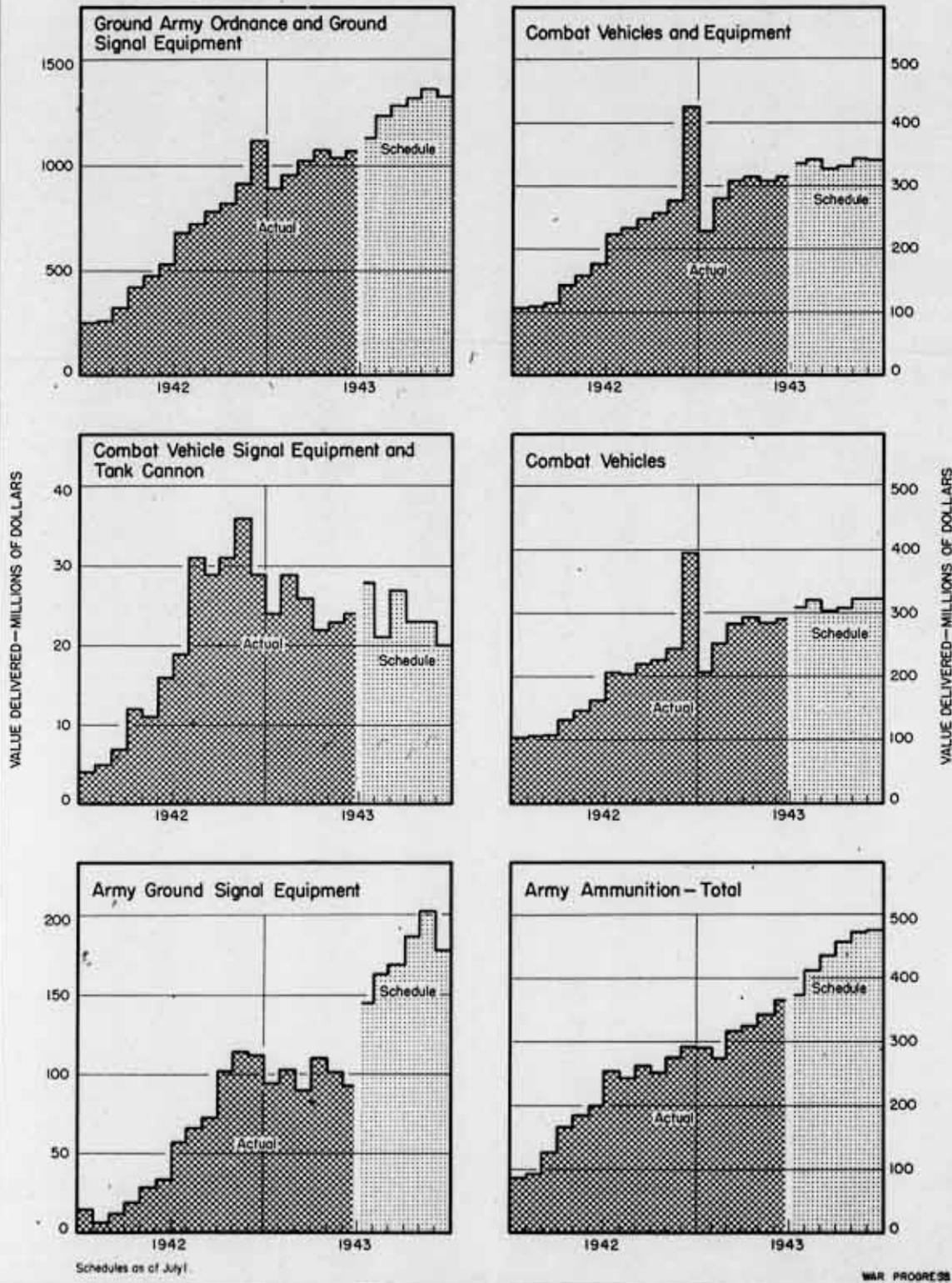
### Labor Force - Cost of Living - Food Production

	Latest Month*	Preceding Month	2 Months Ago	6 Months Ago	Year Ago **	Same Month 1939	Same Month 1937
LABOR FORCE - TOTAL (millions)	55.5	54.6	53.0	52.4	56.8	n.a.	n.a.
Employment	54.3	53.4	52.1	51.0	54.0		
Male	37.2	36.7	36.2	36.3	39.9		
Female	17.1	16.7	15.9	14.7	14.1		
Unemployment	1.2	1.2	0.9	1.4	2.8	n.a.	n.a.
COST OF LIVING - ALL ITEMS (1935-39=100)	123.8	124.8	125.1	120.7	117.0	98.9	103.2
Food	139.0	141.9	143.0	133.0	124.6	94.3	106.3
Other than food	116.1	116.1	116.0	114.3	113.0	101.2	101.7
FOOD PRODUCTION							
Dairy Products (million pounds)							
Butter, creamery	201.7	•	•	•	201.1	202.5	198.2
Cheese	116.3	•	•	•	131.4	88.8	82.1
Evaporated Milk	386.0	•	•	•	397.6	268.8	252.5
Meats - Total (incl. lard, million pounds)	1,603.0	•	•	•	1,531.0	1,083.0	880.0
Beef and veal	421.2	•	•	•	609.8	444.3	456.7
Lamb and mutton	65.9	•	•	•	58.9	53.2	54.3
Pork, including lard	1,115.9	•	•	•	861.8	585.8	368.5
Lard	191.0	•	•	•	151.0	103.5	52.4
Poultry and Eggs							
Eggs (millions)	5,356.0	•	•	•	4,745.0	3,265.0	1,677.0
Poultry (receipts at 5 principal markets, million pounds)	14.7	•	•	•	32.5	28.5	21.9

\*July; Food Production, June. n.a. Not available. • Seasonal influences invalidate month-to-month comparisons.

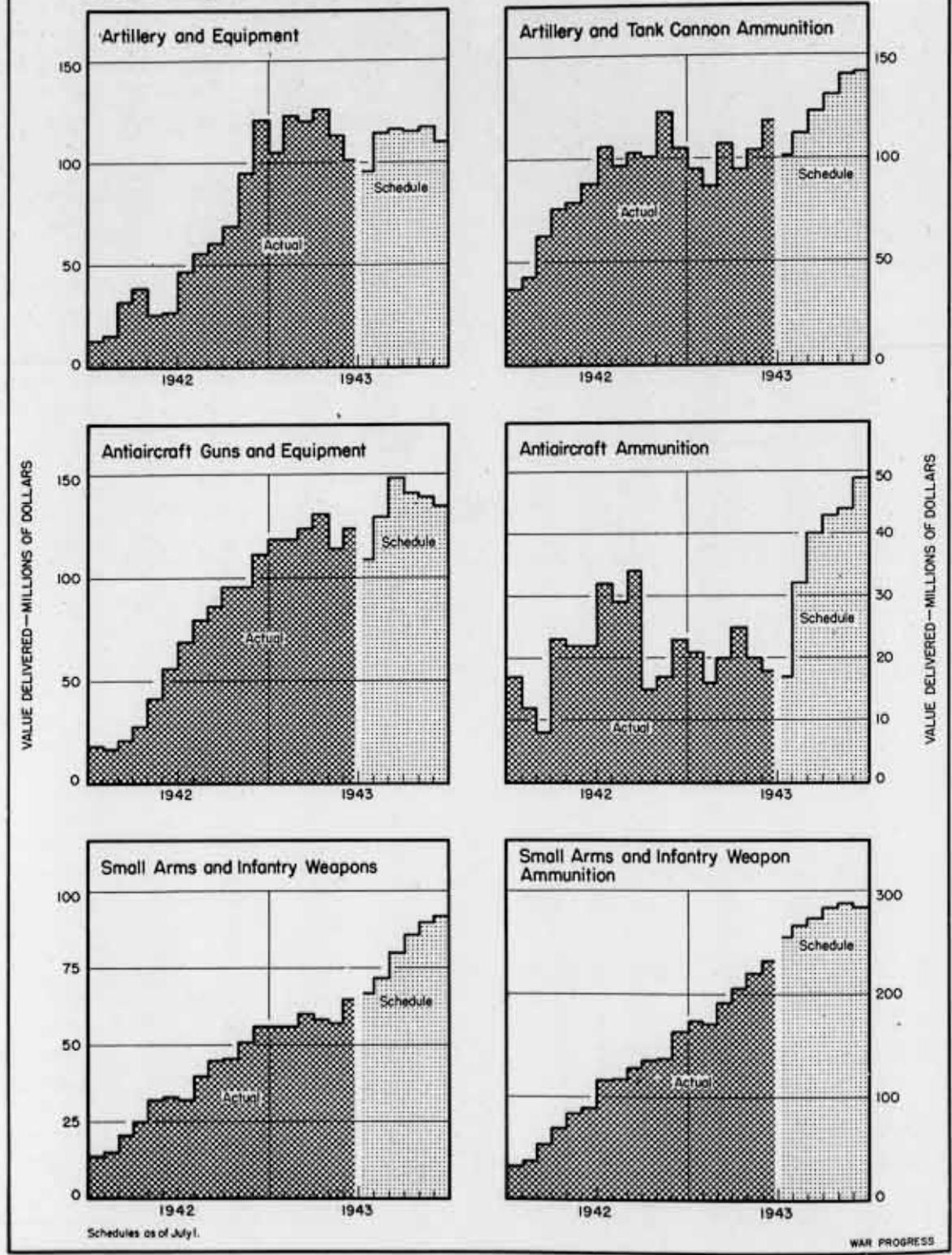
### PRODUCTION PROGRESS

#### Ground Army Munitions



### PRODUCTION PROGRESS

Ground Army Munitions (continued)



# WAR PROGRESS

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*(British Secret)*

The Problems

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## CRP: Buffalo's Manpower Plan

Number 153

August 21, 1943

## CRP — A New Approach to Manpower.

Buffalo's Controlled Referral Plan restricts all male hiring by employers to those referred to them by USES; channels labor to most essential war production jobs.

BUFFALO, top-ranking war production center, has been a critical manpower area since April, 1942, when the War Manpower Commission first began systematically to classify labor areas on a scarcity basis. Right now Buffalo is in the spotlight as the nation's laboratory for a manpower experiment.

Six months after Pearl Harbor, direct war contracts in its 700-odd manufacturing plants doubled—from \$1,000,000,000 to \$2,000,000,000, later expanding to \$2,800,000,000 at the beginning of 1943. Unemployment fell rapidly. Then an up-and-coming local aircraft industry began to siphon manpower from the area's foundries, steel mills, chemical concerns, and other heavy goods companies. Among those hard hit by this ebbing supply of labor were such manufacturers as American Magnesium, Bethlehem Steel, du Pont, General Cable, Lake Erie Engineering, Otis Elevator, Republic Steel, Worthington Pump.

### NO MANPOWER DRAIN PLUG

The result was a striking shift in the character of employment around the Niagara frontier. Before the war, Bell Aircraft and Curtiss-Wright employed around 2,000 persons, an insignificant portion of the Buffalo labor force. By May, 1943, the total had climbed to 77,000; including Chevrolet's two plants, converted to manufacture of airplane motors in 1941, the sum for these three companies was around 90,000 persons—

### WMC EXPANDS JOB REFERRAL

AMONG the minimum standards for all local manpower stabilization plans, announced last week by the War Manpower Commission, is one permitting the establishment of controlled referral for all critical occupations. The basic idea is to direct skilled workers to the most urgent war jobs through the U.S. Employment Service.

Buffalo has not only incorporated this principle in its local manpower agreement, but also (1) extended it to all males, and (2) set up a plan for labor priorities. Hence, an analysis of the Buffalo experience has national interest.

38% of all war workers in the Buffalo-Niagara area.

Many of those jobholders represented (1) in-migrants; (2) previously unemployed; (3) new additions to the labor force, mostly women; and (4) white collar workers such as clerks, bookkeepers, tradesmen, and salesmen. But they also represented workers who left local heavy goods concerns for higher pay and more pleasant working conditions in the aircraft industry.

With the added factor of selective service demands, heavy industry around Buffalo just couldn't plug its manpower drain—despite the fact that its output of basic materials such as steel, chemicals, castings, and brass mill products was the keystone of munitions production. Moreover, the possibilities for attracting women were limited by the hot and heavy, muscle-demanding

character of heavy-goods manufacture. Production schedules became increasingly difficult to maintain.

Then, on June 14, 1943, the Buffalo Controlled Referral Plan was put into operation. The country's first—and most thorough—system of manpower control in accordance with labor priorities, it had been in process of development some two months before. In fact, authority to carry out such a plan had been delegated to each of the 12 WMC regional directors as early as February, when the chairman of the War Manpower Commission, acting under Executive Order 9279, authorized the systematic distribution of labor supply in all critical manpower areas.

**MEANING OF CRP.**

Spark plug of this human machinery is the Buffalo-Niagara Labor Requirements Committee. Comprising five men—an Army officer, a Navy officer, the War Production Board district manager, the area director of WMC, and a retired local industrialist—this committee meets once a week to map its plans.

Here's an idea of what CRP means:

Suppose a foundry in Pittsburgh needs

a tool-and-die maker. The chances are it would run an ad, check with the local U.S. Employment Service office, voice a hope and a prayer—and wait. If a tool-and-die man turned up, he'd probably be hired on the spot.

**USES CONTROLS HIRING**

Now put that foundry in Buffalo, North Tonawanda, Niagara Falls, or anywhere along the Niagara frontier. The concern might run the ad and would certainly get in touch with USES. But from there on the resemblance to Pittsburgh—or any other section of the country—would end. For employers in the Buffalo-Niagara area are restricted in hiring males to those referred to them by the USES—manpower is being directed to the most essential channels. And several methods of enforcement are available, including withdrawal of WMC assistance in training and recruiting labor.

**HALTS EMPLOYING AT GATE**

The fundamental idea behind this manpower channeling is to determine not only what a plant makes, but how its product fits into the whole pattern of war output; how it stacks up when set against the nation-wide job of maintaining production schedules. And the basis for that determination comes from Washington, where the Vice Chairmen for Labor Requirements draws upon the production knowledge of the WPB industry divisions, the Army and Navy, the Maritime Commission, and the Aircraft Resources Control Office. Thus, if the foundry was of urgent importance to the overall program it would be entitled to first call on male labor along the Niagara frontier. But the concern would not do any "hiring at the gate." Under the Controlled Referral Plan it's up to the local USES to try to locate the tool-and-die man, conduct the initial

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interview, and then "refer" him to the foundry.

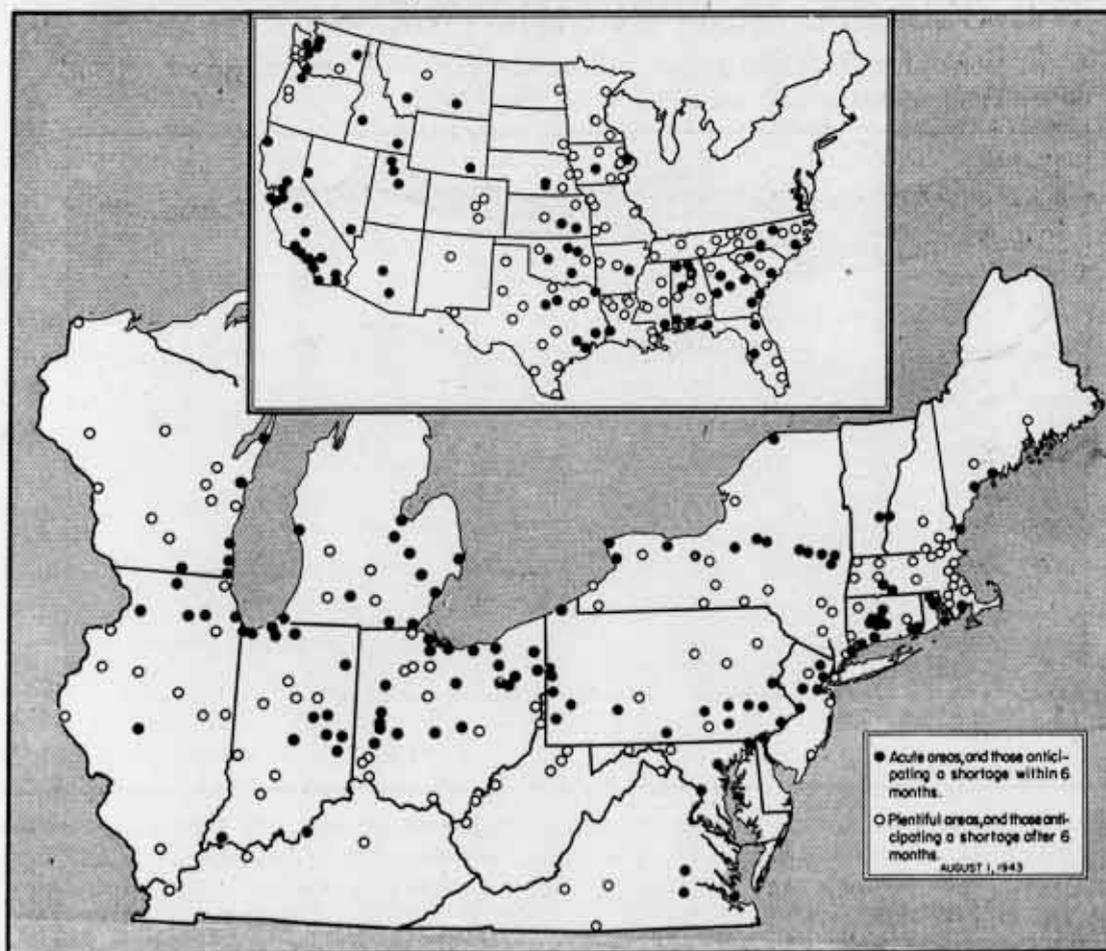
Heart of the Buffalo plan is the "priority list," a docket of companies which have first call on the local supply of male labor (no restrictions are placed on the hiring of women). Revised and reviewed each week by the five-man Labor Requirements Committee, then sent to the local USES offices—which have exclusive control over male hiring—the priority list is CRP's sine qua non for placing manpower where it's needed most.

For instance, the mere fact that a company is doing essential work doesn't mean it goes on the priority list. It

maybe that the item it makes is in ample supply around the rest of the country; lower production in Buffalo would not jeopardize the overall war program. There's the case of a local plant making cartons to pack aircraft parts for a builder of heavy bombers. The owner was anxious to get more men. But a checkup showed that his contract could be filled easily outside the Buffalo-Niagara area. He dropped the request; there was no chance for a labor priority. Then there was the time a manufacturer supplying bottles to the two largest food distributors in the United States asked for some male labor—not

### THE LONG AND SHORT OF MANPOWER

Here are the critical and the surplus labor market areas.



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for himself, but for a plant in Niagara Falls turning out paper to package his product. The plea was denied; there was mill capacity for the item in other sections of the country where manpower was less critical.

Another—and major—reason for not being placed on the priority list is underutilization of labor, especially the failure to hire and train women in every possible case.

Even though airplanes rate a top priority in the war program, two of the three aircraft manufacturers around Buffalo have yet to be placed on the preferred register for local manpower. (The third, with a steep climb in schedule ahead, was put on a fortnight ago,

but under a special arrangement: part of its recruiting will be done outside the Buffalo market; every male hire will be matched by a woman.)

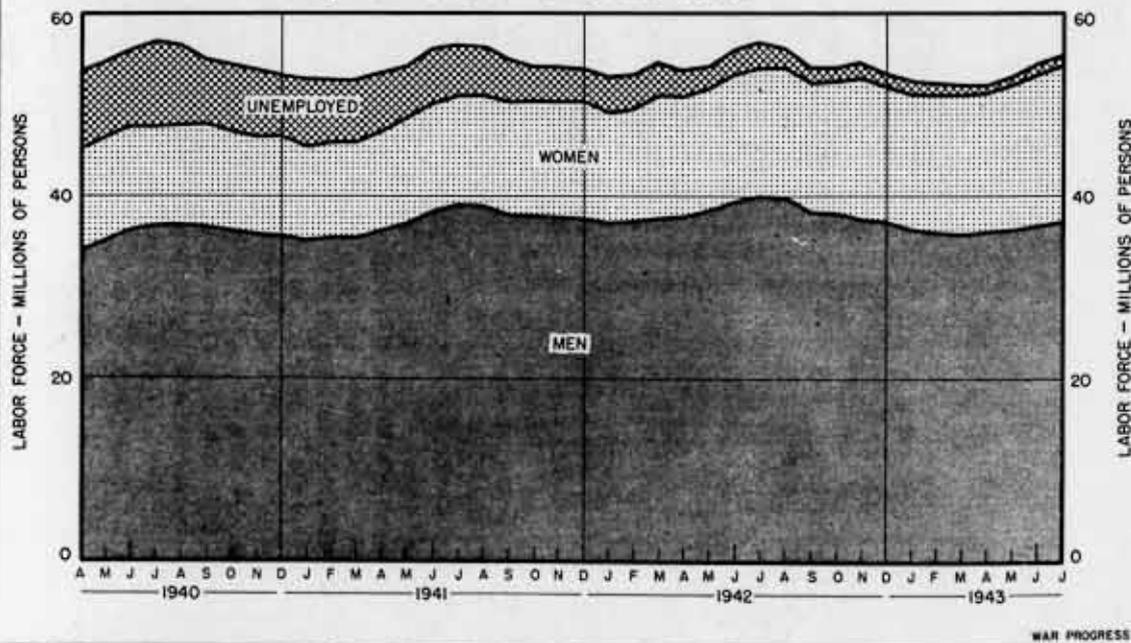
#### SLOW TO ADD WOMEN

Shortly after the plan went into effect, a survey of these aircraft plants for the Labor Requirements Committee revealed that all of them were using men instead of women for simple operations such as assembling, light drilling, punch-press work, electrical wiring, and routine inspections. Result: plane plants were classified as non-priority firms.

On the other hand, nearly all of the requests from plane subcontractors in

### THE SQUEEZE PLAY IN MANPOWER

A new employment high and a near-irreducible minimum in unemployment reflect difficulties in drawing new workers into the labor force.



ABOUT 1,700,000 WORKERS WILL BE NEEDED IN MUNITIONS INDUSTRIES IF PRODUCTION SCHEDULES ARE TO BE MET THIS YEAR. PART OF THESE LABOR REQUIREMENTS WILL BE MET BY THE NORMAL INCREASE IN THE LABOR FORCE; BUT THE GREATER PART—AT LEAST 1,000,000

EMPLOYEES—WILL HAVE TO COME FROM A SHIFT OF WORKERS FROM NONMUNITIONS TO MUNITIONS INDUSTRIES. THE WAR MANPOWER COMMISSION HAS ALREADY MADE A START IN THIS DIRECTION BY ENLARGING THE LIST OF NONESSENTIAL OCCUPATIONS.

## MIDMONTHLY PLANE TALLY; W-6 CUTS GOAL

AIRPLANE PRODUCTION during the first 15 days of August reflects continuation of the summer slump, acceptances falling 6% in number behind the same period for July—2,764 as against 2,918—and 4% behind on a weighted basis. Output represented less than 33% of the new August schedule (W-6) of 8,503. To attain the goal in the remaining 16 days, daily production will have to be stepped up to 359, as compared to 184 in the first 15 days.

Bomber output held at the same rate as in July, but fighters dropped from 828 to 730; trainers from 690 to 596. Best showing was made by transports, up from 272 to 291.

The summer production slump resulted in another monthly revision of the schedule—W-5 to W-6—which lowers goals still further: 2% in

number for both 1944 and the last five months of 1943. The August schedule is cut 115 planes, accounted for in large part by a cutback in heavy bombers at the Boeing (Seattle) and Ford plants.

Despite the reduction, the schedule is still formidable. The W-6 goal of 92,630 planes for 1943 leaves 48,160 to be built in the last five months, 3,700 more than were turned out in the first seven and more than were produced in all of 1942.

Two major changes account for the reduction in the 1944 schedule to 124,500. Output of the Martin B-26 Marauder is cut 2,250, representing 81% of the total cut for next year. Discontinuance after this November of the C-76 Caravan, two-engined plywood medium transport, accounts for a reduction of 1,070 units.

the area—and that covers about three-quarters of all machine shops—have been granted. Here the idea is to keep open the flow of supplies from these smaller firms—where most of the work is heavier and more complex than in plane plants and not so suitable for the employment of women.

But even if a company is placed on the priority list, there is no assurance that it will remain. The Labor Requirements Committee regularly reviews the labor status of such companies in the light of recent developments.

One example of what can happen comes from a producer of heavy machinery, originally put on the list to complete a rush contract for Russia. That accomplished, the company was informed it was slated to lose its preferred status

late this month. It wasn't a question of the plant's importance. Rather, the committee knew that similar plants were using women as welders, machine operators, assembly hands, and parts inspectors; yet this one had never hired a woman in its 100-year history. Within a few weeks, the company had installed facilities for women and simplified its operations. Women went on the payroll last Monday.

### FORMALITY OUT THE WINDOW

Still, the fact that a company isn't on the priority list doesn't mean it won't receive any men at all. When a manufacturer of oil and gas storage tanks needed four men, the order was filled on a telephone call. It was an established concern doing war work. The

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committee was familiar with its labor problem and didn't stand on formality.

USES frequently sends nonpriority companies younger, older, and handicapped men not wanted by priority firms. Thus, a Buffalo hotel recently received a bookkeeper—an aged one, but capable of filling the job. Between schoolboys and older men—not needed by priority firms—one airplane manufacturer managed to obtain more males than any single company along the Niagara frontier. Indeed, during the earlier weeks of CRP, nonpriority firms were sent more male labor than those in the preferred category—60 out of every 100 applicants.

But that was when only 25 or 30 manufacturers (mostly foundries and chemical companies) were on the preferred list. Today the docket has grown to many times that number. And companies engaged in essential civilian work such as transportation, food processing, public utilities, repair services, health and welfare, are heavily represented. Meanwhile, the proportion of referrals to nonpriority firms has dropped to 25 out of every 100. Eventually, the ratio may fall to five out of every 100. The pool of available male labor is drying up steadily. As the scope of the plan widens—and as the Labor Requirements Committee perfects its experience—fewer and fewer nonpriority firms will be able to hire men.

#### FREEDOM OF CHOICE

Whether referred to a priority or a nonpriority firm, workers are not compelled to accept employment. As a matter of fact, 25% of all men referred to jobs never turn up at the employer's gate. For one reason or another, they change their minds. But of the 75% who do show up, two out of three take jobs.

Under CRP, the employer has a similar freedom of choice. In the last

analysis, it is he who determines the fitness of each job seeker. He is not compelled to hire a particular worker merely because the man has a referral card from USFS. But he must use that man in a job which will utilize his highest skill: A turret-lathe operator couldn't be placed on light bench work; a carpenter couldn't be asked to work in a foundry; a watchmaker couldn't be expected to do welding. (However, he might be put on a precision job, such as bomb-sight assembling.)

#### LIMITS LABOR TURNOVER

Incidentally, a feature of this centralized control of male hiring is its possibilities for limiting labor turnover. Day after day, USFS interviewers are faced with men who want to leave their jobs. It may boil down to a family problem—man and wife on the same shift and no one to take care of the baby; perhaps it's the idea that a transfer from one equally essential job to another can be arranged, despite the fact that the transfer doesn't involve a higher skill (a milling machine operator can't leave one plant to run a milling machine at another plant for higher pay); or maybe it's just plain wanderlust. Whatever the cause, USFS does what it can. That family problem can be settled by a phone call to the employer, suggesting that the husband be put on one shift, the wife on another. As for the rest, an explanation of the rules and regulations is usually sufficient. As a result, out of some 40,000 job seekers funneling through the USFS between June 14 and August 7, around 6,000—almost one out of every seven—were returned to their present employers.

One of the striking facts about the Buffalo plan is its flexibility—its ability to meet out-of-the-ordinary

problems with dispatch. Here's an illustration:

One Saturday night a polyvinyl chloride plant in West Virginia, one of two in the U.S., burned completely. The only other producer of this chemical—used extensively as a substitute for rubber—was in the Buffalo area. WPB headquarters in Washington called Buffalo. The situation was explained. On Monday, the local polyvinyl chloride plant was lined up for whatever male labor it might need to help offset the loss from West Virginia.

This flexibility, moreover, doesn't begin and end with the widening of obvious choke-points in the production program. It extends to factors which threaten to cut off future output. When a manufacturer of aluminum castings asked for more men, the regular check of the Labor Requirements Committee—through WPB, the Army, Navy, etc.—

showed that the plant was meeting schedule with its existing force. But it also showed that selective service demands would slice the company's manpower within a month, causing it to fall behind schedule. The request was granted.

#### NO CHECK ON STRAGGLERS

The Buffalo plan has its rough spots. No method has been established to determine exactly what becomes of the men who constantly stream out of Buffalo jobs without a certificate of availability, pull up stakes, and are no longer seen at USES.

Besides, although all large employers of labor in the area are familiar with the basic mechanics of controlled referral, many smaller concerns are not. Typical is the case of a variety store whose manager thought the plan applied only to males over 21. Obviously, some hiring in defiance of the regulations

### KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program—Checks paid (millions of dollars)_____	1,669	1,652	1,600	1,395	1,169
War bond sales (millions of dollars)_____	198	147	212	220	145
Wholesale prices (1926 = 100)_____					
All commodities_____	102.7 <sup>p</sup>	103.0 <sup>p</sup>	102.9 <sup>p</sup>	102.1	98.9
Farm products_____	122.9 <sup>p</sup>	125.0 <sup>p</sup>	125.0 <sup>p</sup>	118.6	106.0
Foods_____	105.1	106.6	106.5	105.5	100.5
All other than farm products and foods_____	97.3 <sup>p</sup>	97.2 <sup>p</sup>	97.0 <sup>p</sup>	96.4	95.8
Petroleum:					
Total carloadings_____	56,661	53,169	59,485	52,197	52,331
Movement of cars into the East_____	29,418	27,413	33,302	27,168	26,981
East coast stocks for civilian use (1940-41=100 Seas. Adj.)_____	34.5	34.7	35.0	36.5	34.8
Total stocks of residual fuel oil (thousands of barrels)_____	66,142 <sup>p</sup>	66,714	67,017	70,666	77,162
Bituminous Coal:					
Production (thousands of short tons, daily average)_____	1,967	2,028 <sup>p</sup>	1,960	1,980	1,848
Exports (no. of freight cars unloaded for export Friday, excl. grain)					
Atlantic Coast ports_____	2,665	2,701	2,343	1,514	1,518
Gulf Coast ports_____	345	336	311	225	442
Pacific Coast ports_____	1,410	1,380	1,327	906	808
Unused steel capacity (% operations below capacity)_____	1.2	1.6	1.7	0.5	2.8
Department store sales (% change from a year ago)_____	+4 <sup>p</sup>	+7 <sup>p</sup>	+20 <sup>p</sup>	+45 <sup>p</sup>	0

p. preliminary r. revised

goes on; but there is every reason to believe it is trifling when compared to the total.

The Controlled Referral Plan is based on this concept: when there isn't enough manpower to go around, labor must be directed to the most important jobs, just as critical materials are distrib-

uted among the most essential end uses. Germany made this discovery as early as 1934, England in 1940. With manpower fast becoming the overall bottleneck in U. S. war production, other hard-pressed areas throughout the country are studying the Buffalo experiment for a solution of their own labor problems.

## Ordnance Requirements on Plateau

Program for 1944 returns to '43 level; drop due in 1945. New \$13,200,000,000 goal is close to current production rate. Major shift is from tanks to ammunition.

THE ARMY SUPPLY PROGRAM has had its semiannual overall revision, and—as of August 1—1944 requirements for ground ordnance and ground signal equipment are on the books at a preliminary figure of \$13,200,000,000. Only a month ago the figure was \$16,330,000,000.

This 19% cut brings the goal for next year down approximately to the new figure for 1943—\$13,300,000,000, a 4% reduction from this year's requirements as of July. Thus we no longer have a year-to-year rise ahead. And after 1944 a drop is in prospect. The 1945 requirements, appearing for the first time, are \$11,627,000,000; but at this date they are far from final.

Unquestionably, the reduction in both 1943 and 1944 requirements takes into account production lags and thus makes the program more "feasible" in some categories. But certain items for which we have the capacity—notably tanks and other combat vehicles—are slashed well below current output. So this cutback is more than a revision to bring overambitious programs down to production reality; it reflects battle experience and ripening strategy.

The reduction in 1943's requirements

for ground ordnance and ground signal equipment is not enough to make it possible to meet the goal in all categories; production to date, plus rising schedules for the remaining months, is still about \$700,000,000 short. But there is a chance that 1944's reduced program can be matched by output; with only moderate increases later this year, production can reach the level called for in 1944.

### TANKS vs. AMMUNITION

There are production problems in the new programs which do not show up in overall figures. Major shifts have been made between categories and individual items. Accordingly, the problem of sharp expansion continues in certain types of materiel. To illustrate: in a sample of 63 major items, requirements for 36 with expanding programs rise from \$4,600,000,000 in 1943 to \$7,000,000,000 in 1944. On the other hand, requirements for the 27 items for which need is declining fall from \$5,500,000,000 to \$2,800,000,000.

The problem of conversion comes to the fore in combat vehicles—drastically cut in 1944—and ammunition, which is in for a big year-to-year rise despite a substantial reduction in requirements. Their facilities are dissimilar, and the resources devoted to tanks will be directly available to shells in only

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small measure. There will be fewer difficulties where the shift is between items of the same category—for example, major small arms and infantry weapon ammunition items, in which the year-to-year increase is made up of items which rise \$790,000,000 while others decline \$270,000,000.

How the weight of major categories shifts from 1943 to 1944 (and how the programs for each year have been revised) is apparent in this table:

	1943		1944	
	July	Now	July	Now
Combat vehicles & equipment..	\$3.63	\$3.51	\$3.35	\$2.10
Artillery & equipment..	1.36	1.34	1.24	1.02
AA guns & equipment..	1.57	1.43	1.24	1.03

	1943		1944	
	July	Now	July	Now
(billions of dollars)				

SA & infantry weapons	.82	.82	.66	.72
Ammunition..	5.30	4.87	8.61	6.80
Ground signal.....	1.17	1.29	1.23	1.53
Total...	\$13.85	\$13.31	\$16.33	\$13.20

The 1943 requirements reductions, obviously, are heaviest in ammunition, especially for small arms and infantry weapons, which is down 10%; and for artillery and tank guns, down 6%. Anti-aircraft guns and equipment drop 5%. One main group has had its 1943 requirements increased: self-propelled guns, up 2% or \$17,000,000.

Reductions in 1944 requirements also are great in ammunition—small arms falling off 22%, and artillery dropping 21%. But there is also a 39% cut in

### ASP — THIS YEAR AND NEXT

PRELIMINARY ANALYSIS of the Army Supply Program as of August 1 shows a total of \$20,400,000,000 for this year and \$21,050,000,000 for 1944. These figures are exclusive of Medical Corps procurement, substantial Air Forces items (which are up appreciably for 1944), and some items for foreign governments, for which complete data are not now available. It is expected, however, that the ASP for 1944—nonmunitions as well as munitions—will not be greatly changed in the aggregate by the August revisions. A 1945 figure appears for the first time—\$18,850,000,000; at this early date it is by no means complete.

The August 1 revisions knocked \$1,360,000,000 from the 1943 require-

ments as of July and \$3,100,000,000 from those for 1944. Cuts fell largely in the "capital goods" items, such as guns. Thus it appears that the program for equipment items is well on its way to maturity and from now on production of items to keep them functioning will be stepped up.

By procurement services, the old and new programs are:

	1943		1944	
	July	Now	July	Now
(billions of dollars)				
Ordnance...	\$14.7	\$13.7	\$17.2	\$13.8
Signal.....	1.7	1.8	1.7	2.1
QMC.....	2.5	2.4	2.8	2.0
CWS.....	.3	.4	.4	.4
Transport..	.7	.6	.6	1.0
Engineers..	1.5	1.6	1.5	1.8
Total.....	\$21.5	\$20.4	\$24.2	\$21.1

combat vehicles, including tanks—a reduction which for the most part has already shown up in schedule revisions. Self-propelled guns have been cut back about one-fourth and AA guns, 17%. Two main ordnance groups were raised: wheeled artillery by 2% and small arms and infantry weapons by 9%. Ground signal increases are substantial in 1944—25%—and are shared by all types of equipment.

The 1945 program carries ammunition at a higher rate than in 1944; all other programs except tank guns are lower than 1944. Sharpest drops are in wheeled artillery and antiaircraft guns.

#### SPRINGFIELD RECOGNIZED

Within categories, the revisions in army ground munitions between July 1 and August 1 ASP look like this:

Reductions are general in the 1944 requirements for combat vehicles. Severest percentage cuts are in the M3A1 scout car—to one-eighth of previous requirements; and in M5 medium armored cars—to one-sixth; neither is listed for 1945. Big dollar cut is \$638,000,000 for the M4 medium tank.

Self-propelled guns are little changed in 1943 except for gun motor carriages, up 25%, requiring a doubling of production for the rest of the year. In this item there is an even greater rise in next year's requirements—from \$70,000,000 to \$190,000,000. The 25% overall reduction in 1944 requirements for SPs is concentrated in the 76mm. gun—chopped down from \$600,000,000 to \$250,000,000.

Wheeled artillery has but one major change in this year's requirements: the 57mm. antitank gun drops 25%, a cut already made in production schedules. In 1944, requirements for heavier types increase—e.g., the 155mm. howitzer, up \$11,000,000 or 15%. In contrast, 57mm. antitank gun requirements repeat

the 1943 cutback. But a large number of new 76mm. AT guns have been added.

Antiaircraft guns and equipment are reduced slightly in this year's new requirements. The new 4.7-inch gun takes a cut of more than 20%, however, and its schedules for the last five months of the year should, accordingly, be reduced about 45%. Requirements for 1944 are cut nearly one-fourth with the 4.7-incher off 40% and the 40mm. Bofors 25%; but requirements for certain directors and optical height finders are more than doubled from earlier plans. The 1945 program is \$100,000,000, compared to \$930,000,000 for 1944.

Small arms and infantry weapon requirements in '43 are unchanged. But for the first time a 1943 requirement is listed for the 1903 Springfield rifle, produced until now only as a fill-in for the Garand; at \$76,000,000, the Springfield requirement approximates the production schedule. Garand and carbine requirements for this year are cut realistically into line with scheduled output. For 1944, carbine and Garand requirements are raised—making up for the 1943 reduction—to a level which approaches current production schedules. Requirements for .50-caliber machine guns in 1944 are now substantially higher, with the M2 turret type up from \$13,000,000 to \$49,000,000; but those for the .30-caliber flexible machine gun, with great numbers in storage, are substantially lower.

#### SCHEDULE CUTS CONFIRMED

Artillery ammunition reductions in the 1943 requirements fall mostly in the lighter calibers. Consequential changes in the 1944 program are elimination of the 155mm. howitzer HE 102 shell and cutbacks totaling about \$450,000,000 in 75mm. gun and howitzer ammunition. Production schedules for

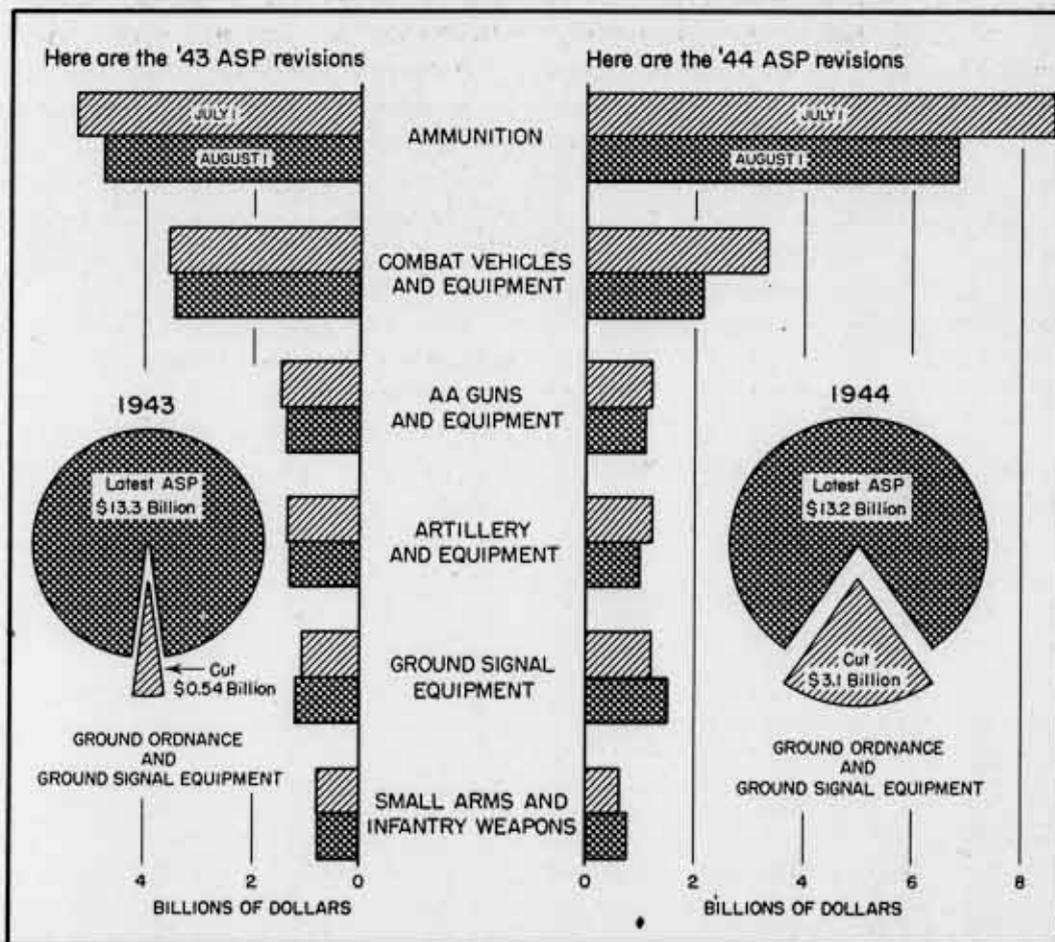
these items have been set high for 1944 to make up for deficiencies in this year's output; and their 1944 schedules will have to be cut by \$650,000,000 to come down to the lowered requirements. The 1945 requirements for most items are somewhat higher than 1944's. Anti-aircraft ammunition changes significantly only in 1944 requirements for the 40mm. Mark 2 HE shell—off \$90,000,000, or about one-third—and the 90mm. M71 HE shell—up about one-fifth.

Small arms ammunition requirements

for 1943, as now stated, in general confirm recent reductions in schedules. For both 1943 and 1944 the cutbacks are general, with the important exceptions of .50-caliber ball and .30-caliber armor-piercing; both rise slightly in this year's program; in next year's the AP item is doubled, to \$400,000,000. The program for antitank mine M1 is cut sharply for both years. Most significant dollarwise reduction in 1944 requirements is a \$490,000,000 slash in .50-caliber AP.

### CUTBACK IN GROUND ORDNANCE

Large reductions in 1944 program bring ASP requirements slightly below 1943's total. Combat vehicles and equipment cut 39%; signal equipment gains.



WAR PROGRESS

## War Progress Notes

### ALUMINUM WITHOUT BAUXITE

BAUXITE HAS ALWAYS been needed to make aluminum. But since U.S. bauxite deposits have been somewhat low-grade, the aluminum industry has been chiefly dependent upon high-grade bauxite from British and Dutch Guiana. Over the past year, limitations of mine production and shipping forced aluminum producers to increase reliance upon domestic deposits, even though the use slowed up the processes of plants geared to make the metal out of high-grade bauxite. To overcome this handicap, a lime-soda-sinter process was developed permitting processing of lower-grade bauxite without hampering production.

Meanwhile, various experiments with new processes to make aluminum without bauxite have been going on in the interests of reducing dependence upon Latin-American bauxite, adequate supplies of which are by no means assured. As a result, five new nonbauxite plants are in various stages:

<u>Plant</u>	<u>Raw Material</u>	<u>Capacity</u> (000 lbs.)
Salt Lake City..	Alunite	40,000
Laramie, Wyo. ..	Clay	36,000
South Carolina..	Clay	36,000
Northwest*.....	Clay	36,000
Marysvale, Utah**	Clay	36,000
Total.....		184,000

\* Approved; site not yet selected

\*\*Awaiting approval

Of these, the Salt Lake City plant is the only one completed; it is expected to operate any day. Construction of the others has been or will be started. Although these processes are being attempted commercially for the first

time (after successful laboratory tests), efficient operations of the new plants may well change the economic structure of the aluminum industry, lessen dependence upon Latin-American bauxite.

### SPEED vs. PRECISION

INCENTIVE pay systems don't always result in increased production. When the Alcoa plant at Bridgeport, Conn., making aluminum cylinder heads, instituted a bonus system, workers speeded output but rejections increased. This meant deductions from pay for the rejected work and disputes between workers and management over rejections. Even an increase in the number of inspectors—to handle rejections as promptly as possible so that workers could find out where they stood—did not end all bickering.

Difficulty here was that the speedup in production was obtained mainly at the expense of precision.

## REPORTS ON REPORTS

### Trade Balance In Fats

U.S. foreign trade in fats and oils tipped to the export side by 2,000,000 pounds during the first four months of 1943; in the same period of 1942, the records show net imports of 166,000,000 pounds. *Fats and Oils* (confidential, pp. 22) reports that inedible greases for soaps are still critical, but edible fats and oils may not be as short as was expected.

(Department of Commerce, Bureau of Foreign and Domestic Commerce)

### Upswing in Morale

Optimism is increasing moderately in the United States concerning production of war materials, success of an Allied invasion of Europe, and the possibility of a German revolt against Hitler, according to *Trends in Attitudes*

*Toward the Progress of the War* (restricted; pp. 11), compiled from a national survey. But most Americans are still convinced that air attacks alone will not win the war, and the percentage of those interviewed who anticipate over two more years of war has risen from 17% to 26% since January. (Office of War Information, Bureau of Special Services)

#### Rubber Expansion

Production of both wild and cultivated crude rubber is being stimulated in Latin America by the United States, consumer in normal times of half the world's output. *Crude Rubber* (confidential; pp. 13) points out, however, that Latin-American rubber is still of minor economic importance, and may be displaced by expected cheap postwar

supplies, both natural and synthetic. (Coordinator of Inter-American Affairs, Research Division)

#### Keeping Prices Down

Subsidies save more money than they cost, both for consumers and for the government, according to *The Essential Role of Subsidies in the Stabilization Program* (pp. 14). The study analyzes different methods of applying subsidies, answers eight common objections to them, and cites British and Canadian achievements in effecting stabilization through their use.

(Office of Price Administration)

[This record is an attempt to select from the many documents coming to the attention of WAI PROGRESS those studies which would be of most interest to readers. The list is by no means comprehensive, and no attempt has been made to evaluate reports for accuracy. Whether reports are available depends on the policy of each individual agency.]

## SELECTED MONTHLY STATISTICS

### Employment - Labor Turnover

	Latest Month *	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
FEDERAL CIVILIAN EMPLOYMENT (thousands)	3,116 <sup>p</sup>	3,100	3,068	2,956	2,317	934	877
War	2,361 <sup>p</sup>	2,351	2,276	2,049	1,423	n.a.	n.a.
War Department	1,500 <sup>p</sup>	1,494	1,417	1,280	847		
Navy Department	637 <sup>p</sup>	634	633	559	450		
Other War Agencies	224 <sup>p</sup>	223	226	210	126		
Nonwar	755 <sup>p</sup>	749	792	907	894	n.a.	n.a.
NONAGRIC. EMPLOYMENT-TOTAL (thousands)	38,370 <sup>p</sup>	38,485	38,262	37,862	37,234	29,665	n.a.
Manufacturing Total	16,127 <sup>p</sup>	16,056	15,911	15,743	14,641	9,817	
Durable Goods	9,612 <sup>p</sup>	9,585	9,483	9,178	8,155	4,251	
Nondurable Goods	6,515 <sup>p</sup>	6,471	6,428	6,565	6,486	5,566	
Government	5,883 <sup>p</sup>	5,938	5,948	5,689	5,184	3,902	
Other	16,360 <sup>p</sup>	16,491	16,403	16,430	17,409	15,946	n.a.
LABOR TURNOVER IN MFG. INDUSTRIES † (rate per hundred employees)							
All Manufacturing							
Accessions	8.30	7.18	7.43	6.92	8.25	3.92	3.69
Separations - Total	7.04	6.57	7.54	6.37	6.46	3.31	4.02
Quits	5.17	4.81	5.41	3.71	3.85	0.73	1.89
Military Separations	0.69	0.69	0.87	1.29	0.78	n.a.	n.a.
Aircraft							
Quits	4.44	4.23	4.62	3.69	3.60	0.99	1.06
Military Separations	0.68	0.63	0.84	1.78	0.93	n.a.	n.a.
Shipbuilding							
Quits	6.20	6.70	6.30	4.49	5.71	0.59	1.66
Military Separations	1.05	1.10	1.45	1.95	0.91	n.a.	n.a.

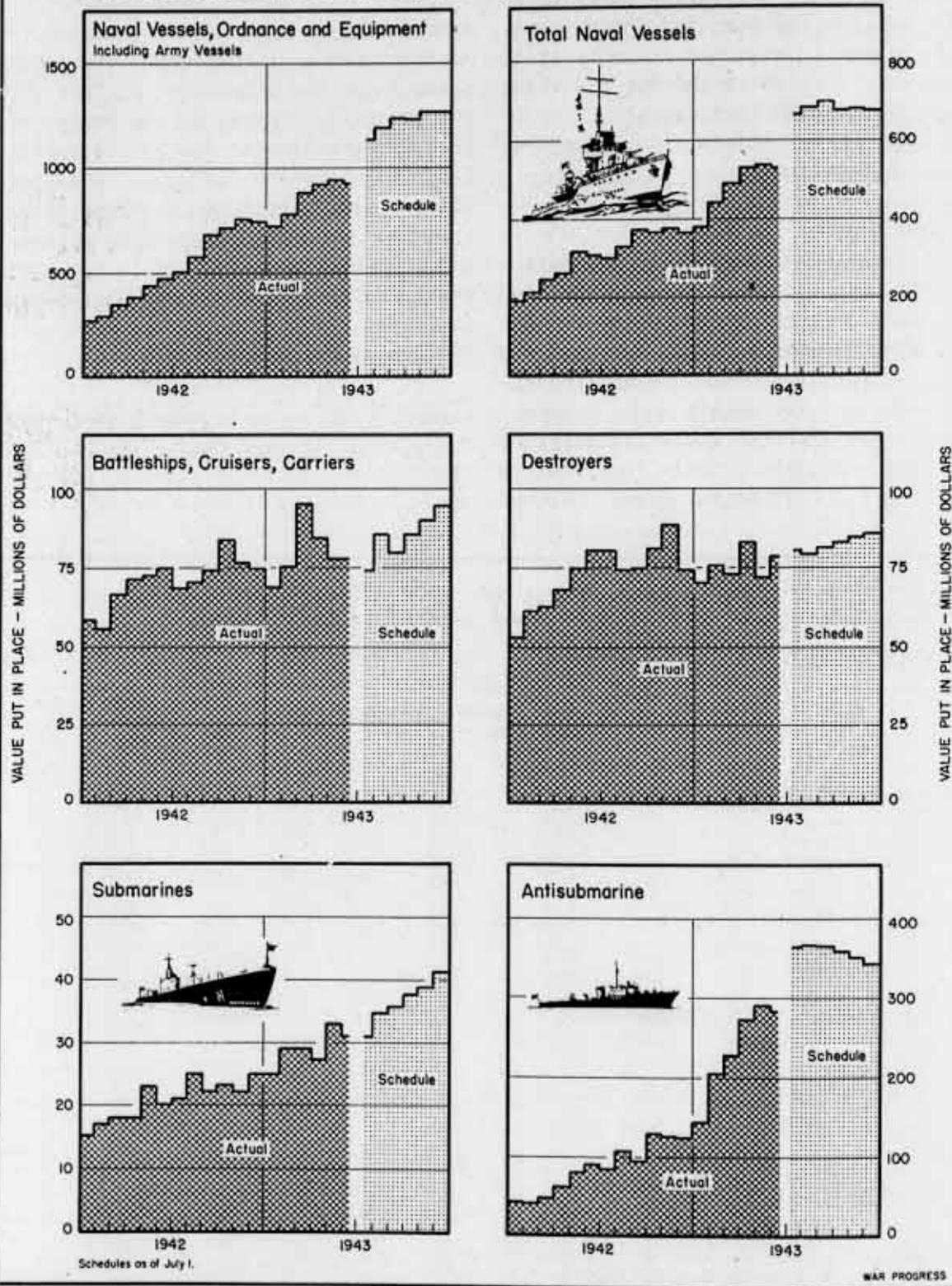
\*Nonagricultural Employment, July; Federal Civilian Employment and Labor Turnover, June. †Rates beginning 1943 refer to all employees rather than to wage earners only and are not strictly comparable with earlier data.  
n.a. Not available. p Preliminary.

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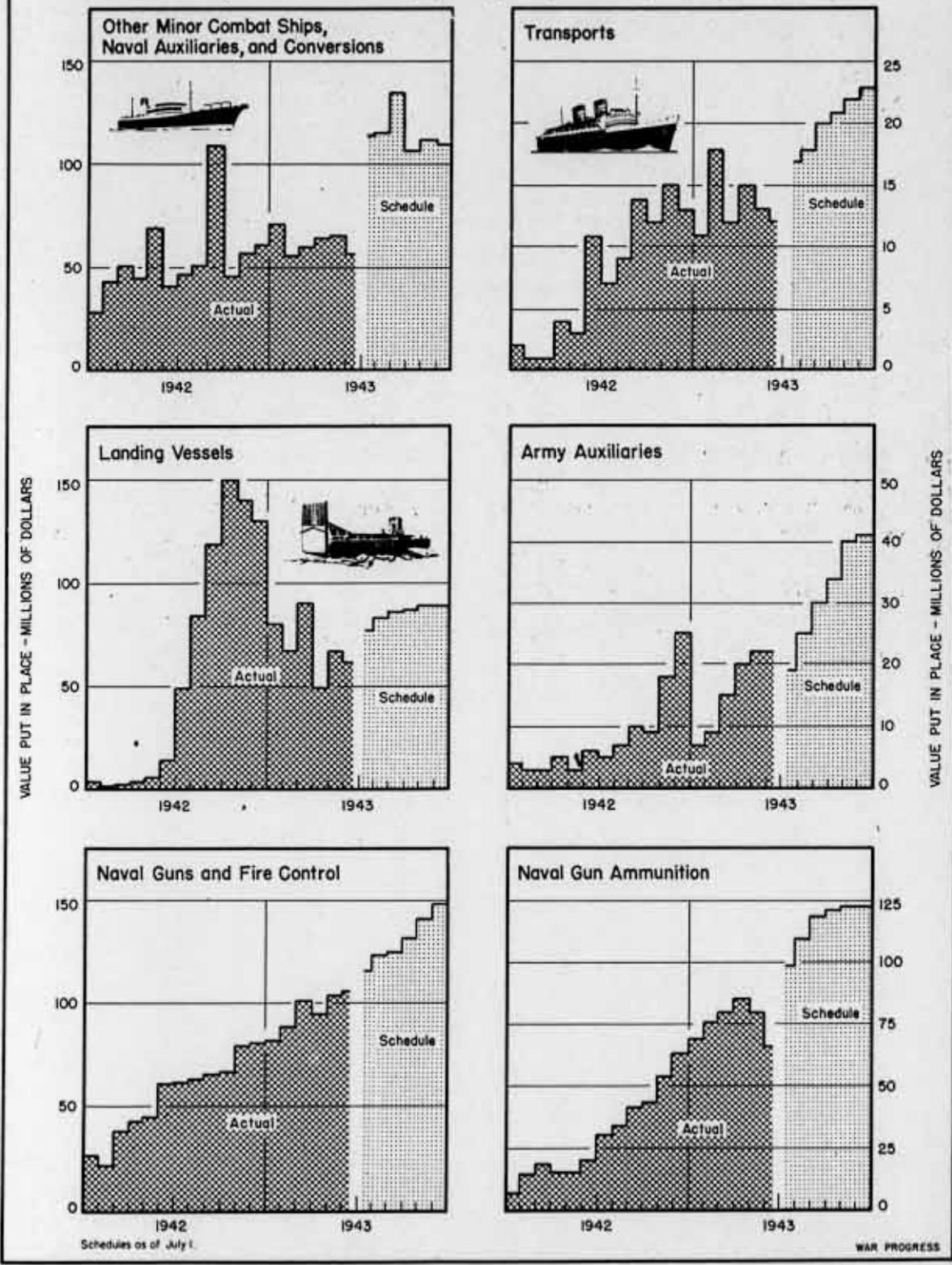
### PRODUCTION PROGRESS

Naval Vessels, Ordnance and Equipment; Army Vessels; Merchant Vessels



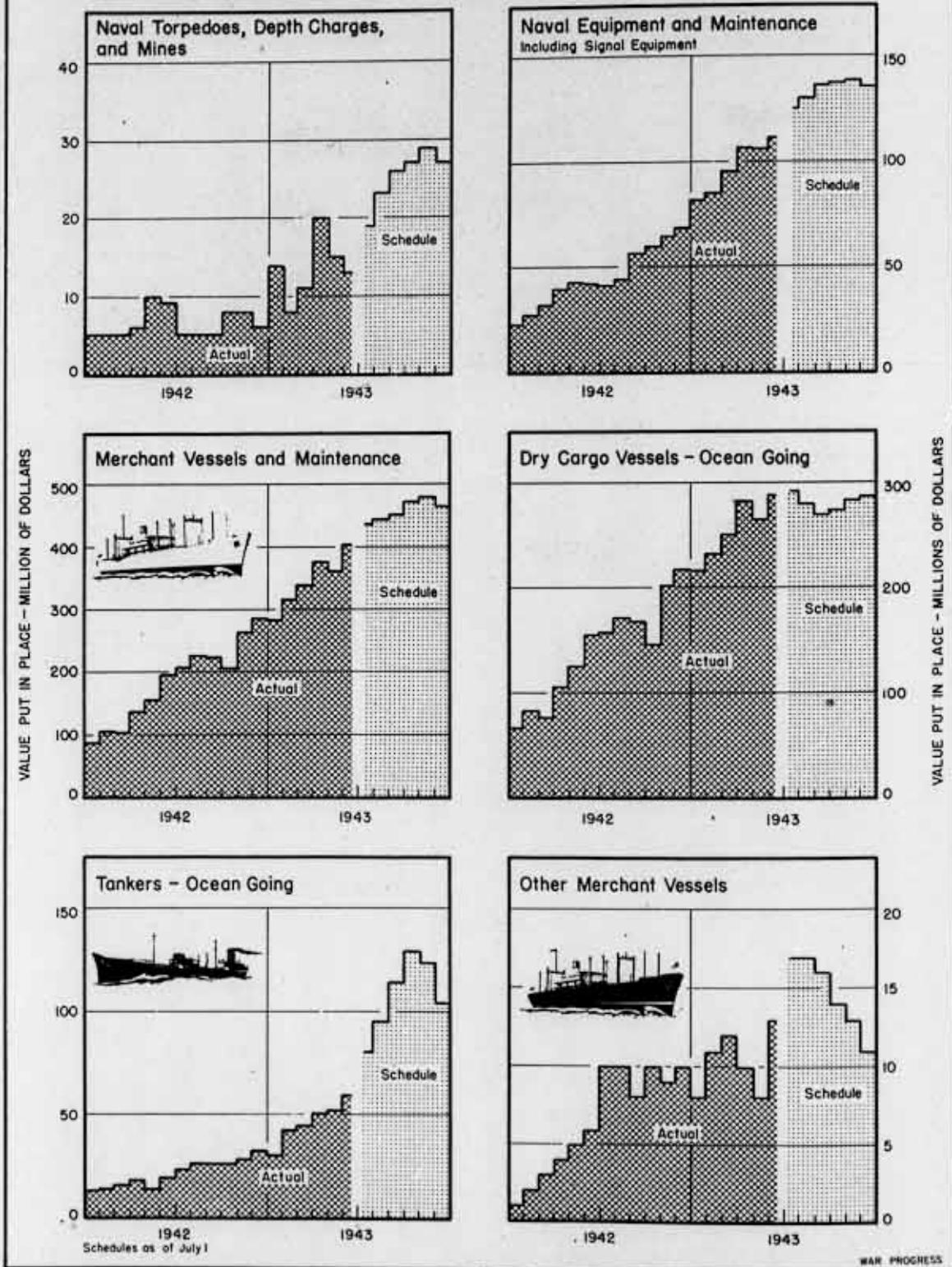
### PRODUCTION PROGRESS

Naval Vessels, Ordnance and Equipment; Army Vessels; Merchant Vessels



### PRODUCTION PROGRESS

Naval Vessels, Ordnance and Equipment, Army Vessels, Merchant Vessels



The President

# WAR PROGRESS

*Confidential*  
*(British Secret)*

DECLASSIFIED  
E.O. 11652, Sec. 2(b) and (c) of 1951  
Comstock Dept. Letter 1244-78  
By RSP, Dale MAR 29 1973

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August 28, 1943

## Smoothing Construction Machinery Kinks

Expediting unit eliminates 480 production bottlenecks to keep bulldozers, graders, etc. moving overseas. Output rises 21%. Military forces take 90% of total.

CONSTRUCTION this year will be down 43% from 1942.

But production of construction machinery is expected to be up 21%.

The reason: soaring overseas military demands.

About 90% of all new construction machinery now goes for military purposes. It's needed to fill in bomb-pocked airfield runways, clear roads through forests, pull artillery and supplies, load ships, and to do thousands of other bulldozing, hauling, dirt-moving, and material-handling jobs in a hurry and often under fire.

Latest call is for air-borne midgets, weighing 1½ tons or less. (The midget grader weighs three-quarters of a ton as against six tons for the standard, heavy-duty job.) These are flown to newly captured airfields or bases for general repairs. Nine months ago they were unheard of.

Today construction machinery is a military end product. From \$360,000,000 in 1941, military demand has doubled as follows:

Year	Total Output (millions)	Military	Military as % of Total
1941.....	\$600	\$360	60%
1942.....	700	525	75
1943.....	850	765	90

Moreover, 1944 may be even higher than these estimates. Right now tractor business is booked solid through

the third quarter of 1944; cranes and shovels through the second quarter.

Because this equipment is destined for overseas and must be gotten into the hands of Allied military forces on time, delivery schedules have to be met. To assure this, WPB's Construction Machinery Division has set up its own Expediting Unit to aid the 458 manufacturers under its jurisdiction in securing hard-to-get materials and components. However, not until manufacturers or their military representatives fail to get what's needed does the Expediting Unit step in.

### SUPPLIES MISSING LINKS

Since its inception in April, 1943, the Expediting Unit has had 523 requests for such items as engines, bearings, steel, lumber, nuts and bolts, wrappings, new machine tools, and so on. And in 480 cases—by ransacking warehouses or idle inventories, by getting a boost in priority rating, by selling the manufacturer on an earlier delivery date, or by spurring a subcontractor—the Expediting Unit has come through.

A request for expediting must contain certain salient details:

What is needed

When

The promised delivery date

The end item it is going into

The promised delivery date of the end item

The priority rating

Sources of supply already approached

With these data in hand, the Expediting Unit may go directly to ware-

houses, brokers, and consumers; or if it is an especially manufactured item, a hand fire extinguisher, for example, the manufacturers are contacted.

#### RECORD CASE CITED

Time to expedite each case usually varies from a few hours to 10 weeks. Record: one-half hour. In this case, the E. D. Etnyre Company, Oregon, Ill., had completed 124 bituminous spreaders urgently needed by the Corps of Engineers. Cargo space to carry them to the South Pacific and European combat areas already had been reserved. The machines were all ready for the trip—except for one detail: the 124 Pyrene fire extinguishers, one to a spreader, were not on hand.

The Expediting Unit telephoned the Pyrene Company, Newark, N.J., and learned that one of the prior orders blocking delivery to Etnyre was a Corps of Engineers' order for 2,000 fire extinguishers of the same type and specification. The Expediting Unit then called the Corps of Engineers, cleared the way for the release of 124 fire extinguishers

to Etnyre, and that was that.

But some are not so easy: Take the case of the 10 two-cubic-yard shovels (20-ton units) ordered by Russia early in 1942 under the first Russian protocol for lend-lease. These demanded materials and parts of unusual specifications, such as flexible conduit cable, bakelite insulation equipment, special electrical adapting equipment; also hot-rolled, heat-treated, cold-finished steel normally requiring a four- to five-month processing time. But before the Northwest Engineering Company with which the order was placed could get started, it was swamped with navy orders for shovels of an entirely different type. Prospects for filling the Russian order were slim. The Construction Machinery Division was asked to look into the matter.

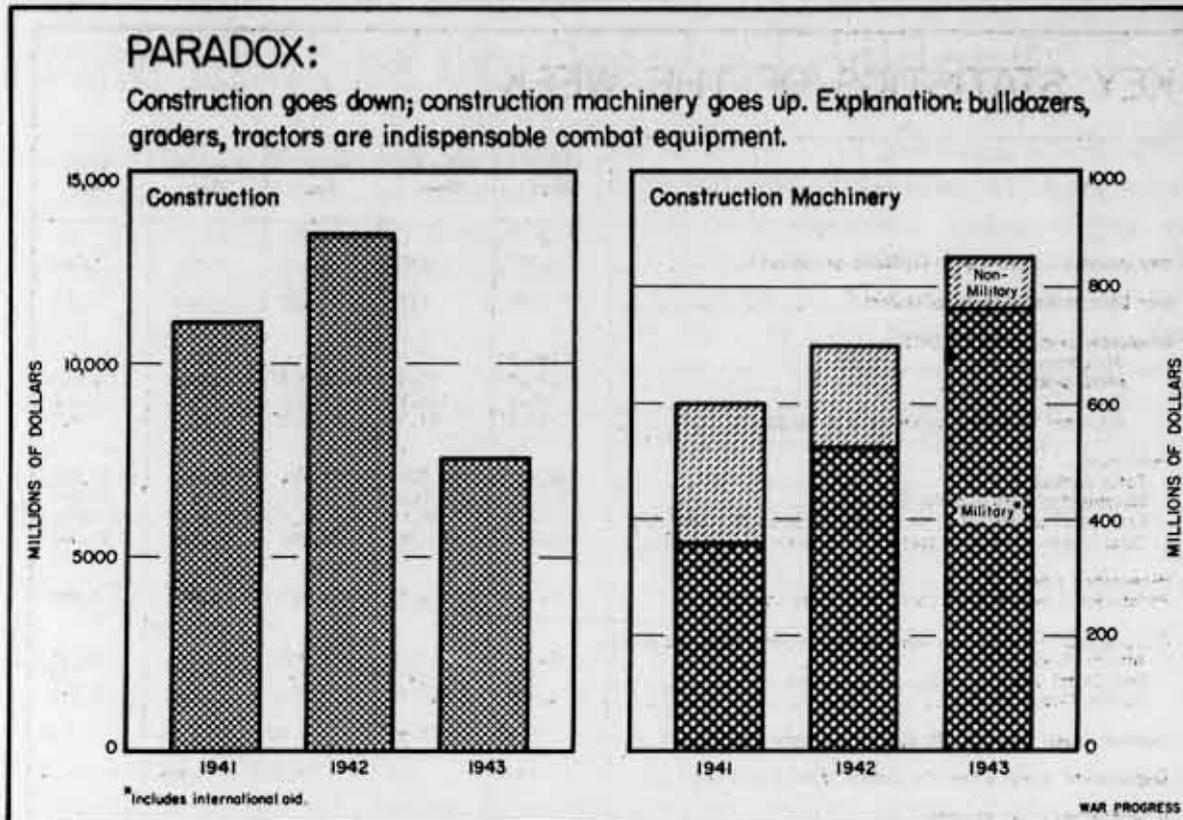
#### BAPTISM OF FIRE

First, the division got the Navy's permission to have the Russian units fitted into Northwest Engineering's production schedule. This required getting materials and parts into Northwest on the dot so as not to delay navy shovels unnecessarily. And that was how the newly formed Expediting Unit got its baptism of big fire—expediting 75 different items for U.S.S.R. shovels.

The unit located the proper type of hot-rolled steel in numerous warehouses, including Russian warehouse stocks in the United States; it then arranged for its shipment to a processor for heat-treating and cold-finishing. Cables, insulation, etc. were rounded up on schedule. At the end of five weeks everything except special electrical adapting equipment was in place. But this equipment required eight to nine weeks to build. And the assembled machines couldn't be left cluttering up Northwest's floor space, blocking the

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navy job for two to three weeks.

So the unit went to the Treasury (which provides lend-lease funds) for permission to lay out funds to rent warehouse space. That granted, the shovels were moved out of the Northwest plant. Then in due time Northwest Engineering's men went to the warehouse to install the electrical units. After 10 weeks, the shovels were delivered and the Expediting Unit could enter in its books: "Close the protocol case."

#### STRETCHES RUBBER HOSE

And so it goes. Right now the Expediting Unit is widening the bottleneck in high-pressure rubber hose required for bulldozers, steam shovels, cranes, fire extinguishers, etc. This hose must be reinforced with braided wire, and there are only four manufacturers and six machines in the United

States that can do it. Weekly output averages 190,000 feet, as against requirements of 250,000 to 275,000 feet.

As of July 1, the backlog—mostly for military needs—amounted to 25 weeks' production. And orders were still piling in.

#### MANAGES MORE MACHINES

As the problem shaped up to the Expediting Unit, six more machines were needed. It called a meeting at which (1) Army and Navy officials supported the unit's request for additional machines; (2) the Office of the Rubber Director approved the building of new machines (ORD must ratify construction of all machines that work rubber); (3) the General Industrial Equipment Division promised priorities for the machinery. Upshot: Six machines were authorized, priorities secured for their

## KEY STATISTICS OF THE WEEK

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars) -----	1,777	1,669	1,474	1,527	1,108
War bond sales (millions of dollars) -----	165	198	199	212	143
Wholesale prices (1926=100)					
All commodities -----	102.8 <sup>p</sup>	102.7 <sup>p</sup>	102.9 <sup>p</sup>	102.4	98.9
Farm products -----	123.8 <sup>p</sup>	122.9 <sup>p</sup>	124.8 <sup>p</sup>	120.0	106.0
Foods -----	105.8	105.1	107.0	105.7	100.8
All other than farm products and foods -----	97.3 <sup>p</sup>	97.3 <sup>p</sup>	97.1 <sup>p</sup>	96.4	95.7
Petroleum:					
Total carloadings -----	58,213	56,661	57,344	51,986	55,867
Movement of cars into the East -----	30,111	29,418	32,239	26,152	27,694
East coast stocks for civilian use (1940-41=100 Seas. Adj.)	36.8	34.5	35.2	35.2	55.9
Total stocks of residual fuel oil (thousands of barrels) -----	66,724	66,448	66,992	70,428	78,098
Bituminous Coal:					
Production (thousands of short tons, daily average) -----	2,000	1,967	1,967	2,033	1,896
Exports (no. of freight cars unloaded for export Friday, excl. grain)					
Atlantic Coast ports -----	2,584	2,665	2,551	1,226	1,574
Gulf Coast ports -----	353	345	431	398	330
Pacific Coast ports -----	1,444	1,410	1,244	980	711
Unused steel capacity (% operations below capacity) -----	0.6%	1.8 <sup>p</sup> %	2.6 <sup>p</sup> %	1.1%	2.7%
Department store sales (% change from a year ago) -----	+15%	+4%	+19%	+33%	-3%

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manufacture. In addition, the Expediting Unit helped to get together four manufacturers to agree to buy and operate the machines.

But this did not end the Expediting Unit's job. Already it has been asked by the makers of the machines, the Textile Machine Works, of Reading, Pa., to expedite the steel plate entering the manufacture of the machines, and it has arranged to borrow schedule space in September steel mill rolling, moving up delivery by 60 days. And since a 90-day deadline has been set, all manner of expediting will probably come up before the machinery rolls onto a freight car. Moreover, once the expanded capacity starts working, the Expediting Unit will have to start in expediting all over again—getting the steel wire necessary for the hose. You widen one bottleneck and create another one.

Expediting is exciting, like a treasure hunt. No two cases are alike. But to find the treasure—whether it's a special-type stud, some crating lumber, or some sheet steel in the vicinity of the applicant—takes routine digging: telephoning, visiting, haranguing this supplier and that manufacturer, getting countless discouraging noes before the smile-bringing yes. It means poring over lists of idle inventories, trying to iron out kinks in scheduling, studying blueprints to figure out if this plant can subcontract some of that plant's work. It means determining who might be able to do this, or supply that. And how soon? That's where imagination and resourcefulness come in.

And in the long run expediting takes patience. The Etnyre-Pyrene-Corps-of-Engineers case that's solved in a half-hour is an expeditor's dream.

## Plane Engines Up Despite Lockland

July production of motors again advances, although it lags 13% behind schedule. Wright plant in Ohio was responsible for 63% of the deficit. August better.

THOUGH PRODUCTION of airplane engines has been rising steadily, it has been lagging increasingly behind schedule since March. By July, when 18,757 engines were turned out, the deficit for the month was 13%. And one plant—Wright Aeronautical Corporation, at Lockland, Ohio—was responsible for 63% of the entire deficit and three-quarters of the deficit in tactical plane engines.

### 87% BEHIND SCHEDULE

The tribulations of Wright, a subsidiary of Curtiss-Wright, have been publicized in recent weeks. The Truman Committee reported last month that inspection was lax on the R-2600B, a 14-cylinder, 1,700hp Cyclone engine. Output of these motors (made only at Lockland) has been tumbling ever since March:

	R-2600B Deliveries	% of R-2600B Schedule
January....	1,721	101
February...	1,428	84
March.....	1,872	110
April.....	1,375	81
May.....	884	52
June.....	642	34
July.....	267	13

Thus, by July, output of the R-2600B was one-seventh of the March figure and 87% behind schedule.

In general, the lag in total engine production has not affected the completion of planes inasmuch as airframe output itself has been behind schedule. There have been two exceptions: Packard Merlin 2-stage V-1650s have contributed

to a deficit in Mustangs, and R-3350s have delayed deliveries of B-29 long-range super bombers. Unless output of the R-3350 can be stepped up from an average of 20 in recent months to 300 and more by the end of the year, the effect on the long-range bomber program will be serious. Packard production of the 2-stage Merlins was up sharply in July.

As yet, the decline in R-2600B output has not slowed acceptances of the planes in which it is used—B25 Mitch-

### THE 200,000TH PLANE

U.S., British, Canadian, and Australian aircraft plants are now working on their third 100,000. The 200,000th plane rolled off an assembly line the last week in July.

The first 100,000 were the hardest, taking 34 months to produce—from the beginning of the war in September, 1939, to July, 1942. Of these, the British Empire assembled 55%. The second 100,000 took 12 months; 65% were made in the U.S.

As against 46 months for the first 200,000 planes, the next 200,000 are scheduled for completion in about 15 months. And these will be heavier and much more elaborately equipped than the first 200,000. From 50% trainers, when U.S. war production began in July, 1940, the ratio will decline to less than 10% by the end of next year. At the other end of the scale, the number of heavy bombers to be produced in the next 18 months is scheduled to exceed that of all types of planes produced in the first year and a half of war.

ell, Helldiver, Avenger torpedo bomber, Buccaneer dive bomber, Mariner patrol bomber, Baltimore light bomber, and A-25 Army light bomber. Manufacturers were able to draw on a surplus of 5,500 engines, which were on hand at the end of March, just before the production plunge.

However, these inventories are about down to a bare working minimum. And the Lockland plant would have to do the next to impossible—increase production tenfold in order to meet schedules which call for 2,700 engines in September.

Production of planes which use the R-2600B may not be immediately curtailed because (1) there is usually a lag between the production of the engine and the installation in planes and (2) spares and exports may be reduced temporarily. August is expected to be a much better

month than July. But output has not recovered sufficiently to avert the threat of curtailment in production of the 1,200-odd planes per month which use the R-2600B.

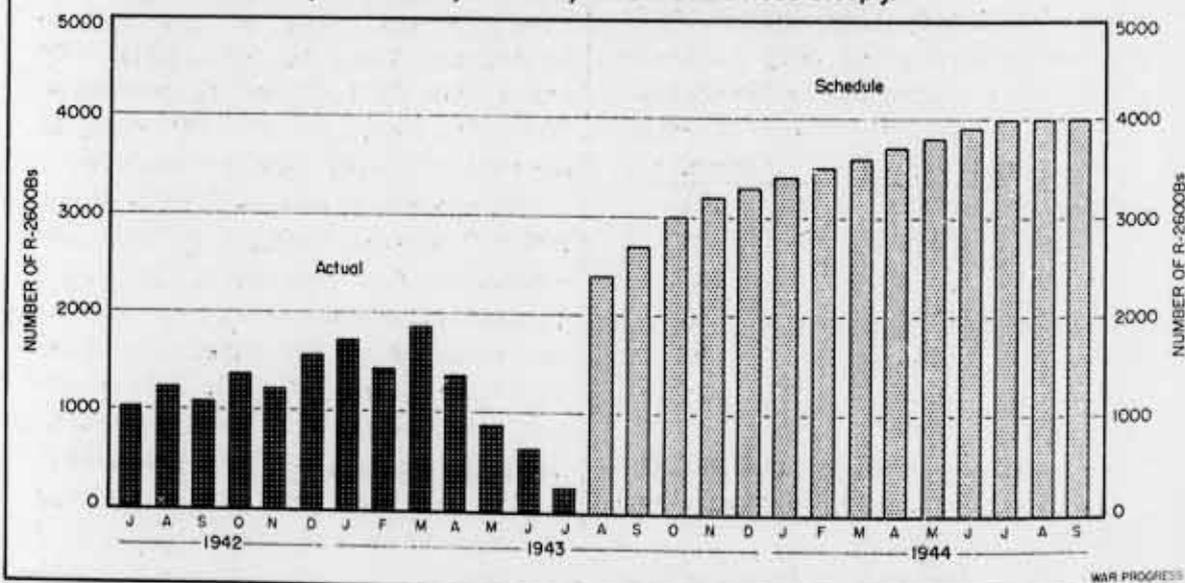
The trend in output of all aircraft engines is as follows:

	All Engines	All Tactical Engines
January....	16,125	10,953
February...	15,364	10,829
March.....	16,977	12,278
April.....	16,854	11,919
May.....	17,891	13,002
June.....	18,018	13,269
July.....	18,757	14,264

Because of the decline in production of engines for trainer planes, tactical engine output has risen more sharply since the first of the year than the output of all engines.

### WHAT HAPPENED AT LOCKLAND

Production of the R-2600B (Wright Cyclone) engine started dropping sharply in April; used in Helldivers, Buccaneers, Mitchells, etc. Schedule rises steeply.



SEVEN TYPES OF COMBAT PLANES USE THE 1,700HP CYCLONE R-2600B ENGINE, WHICH IS MADE ONLY AT THE LOCKLAND, OHIO, PLANT OF THE WRIGHT AERONAUTICAL CORPORATION. THE PLANT HAS BEEN UNDER SCRUTINY OF THE TRUMAN SPECIAL INVESTIGATING COMMITTEE. THESE 14-CYLINDER

MOTORS GO INTO MORE THAN 1,200 PLANES A MONTH—SOME OF THEM BI-MOTOR JORS. OTHER ENGINES ARE NEEDED AS SPARES—ABOUT 45 FOR EVERY 100 ENGINES INSTALLED—AND FOR EXPORT. BUT PRODUCTION SLUMPED TO 267 IN JULY, AS AGAINST A SCHEDULE OF 2,100.

## Propeller Shift

Production of all companies—United Aircraft, Curtiss-Wright, etc.—up sharply, but Nash-Kelvinator, newcomer, is scheduled to be leader next year.

LAST YEAR, Curtiss-Wright and United Aircraft's Hamilton Standard Division accounted for over 80% of all controllable pitch propellers produced. This year, their output will be larger than ever—51,800 for Curtiss and 69,400 for Hamilton Standard. However, their share of the total is expected to decline to 51%; and in 1944, estimates are that they will be turning out only 42% of all aircraft propellers.

Newcomers are moving up fast, and Nash-Kelvinator Corporation is outstanding. In 1942 its share of the 107,300 controllable pitch propellers produced was 14,800, or 14%; but this year it is slated to manufacture 61,600—26%—of the 237,300 total. And in 1944 Nash-Kelvinator is expected to become the leading manufacturer with 84,000, or 24% of the 356,500 scheduled:

	% of Total Production		
	1942	1943	1944
		(est.)	(est.)
Curtiss-Wright....	25%	22%	23%
Hamilton Standard.	56	29	19
Remington Rand....	—	5	12
Nash-Kelvinator...	14	26	24
Frigidaire.....	—	11	15
Other.....	15	7	7

Remington Rand, Nash-Kelvinator, and Frigidaire (a division of General Motors) produce only one model—the 23E50, a 3-blade dural hydromatic control propeller. This propeller is used on more than 25 of our most important planes, such as the Liberator, Flying Fort, Billy Mitchell, Hellcat, Corsair, Avenger, and Skymaster.

## Paying 36% As We Go

DURING THE LAST WAR, the U.S. Treasury borrowed about \$70 out of every \$100 paid out. This time it has cut down a bit. In the 1944 fiscal year, expenditures are expected to run to \$110,000,000,000 and borrowings to \$70,000,000,000, or 64%, on the basis of present taxes. (The British are borrowing about 50%.)

The character of borrowings has changed markedly. Last time, private individuals, corporations, and insurance companies were the big lenders to the government, buying 80% of the war bonds offered; commercial banks bought only 16%. This time they are absorbing 38% of the increase in federal debt; individuals, corporations, and insurance companies, 47%. (The remainder goes to Federal Reserve banks, government agencies, and mutual savings banks.)

### TREND OF THE TIMES

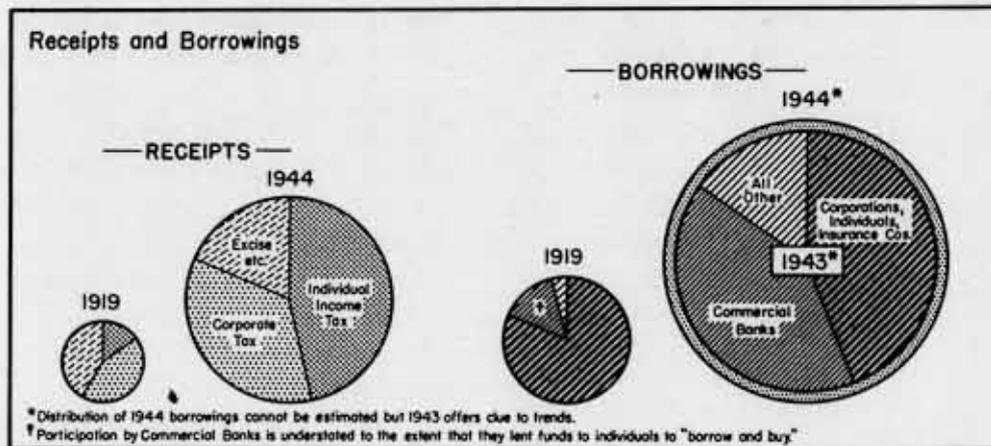
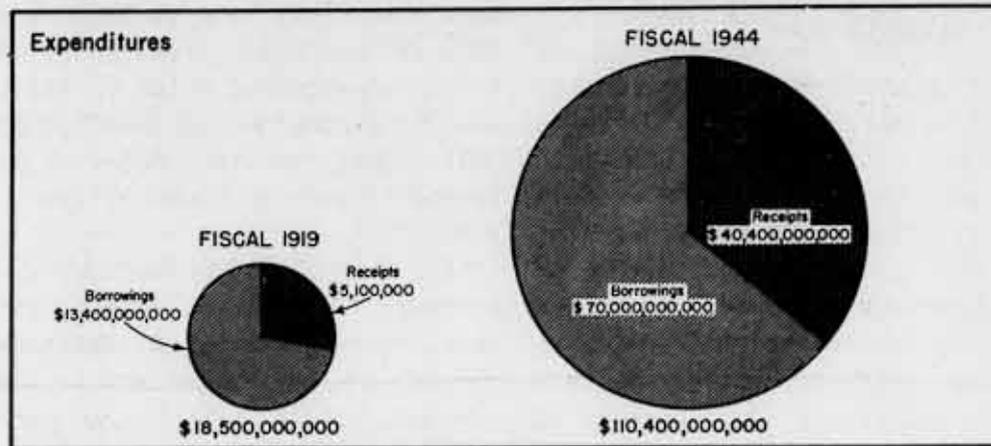
Going into debt to meet federal expenditures is a continuation of prewar trends. During the '30s, federal expenditures consistently exceeded revenues, and the debt moved up steadily until the 1942 fiscal year, when it really began booming. At the end of fiscal 1944 it is slated to pass the \$200,000,000,000 mark.

Prior to the last war the budget was in virtual balance; then came the war, and the deficit soared; but after the war, receipts exceeded expenditures (chart, page 8), there was a federal surplus, and Secretary Mellon was able to cut the federal debt.

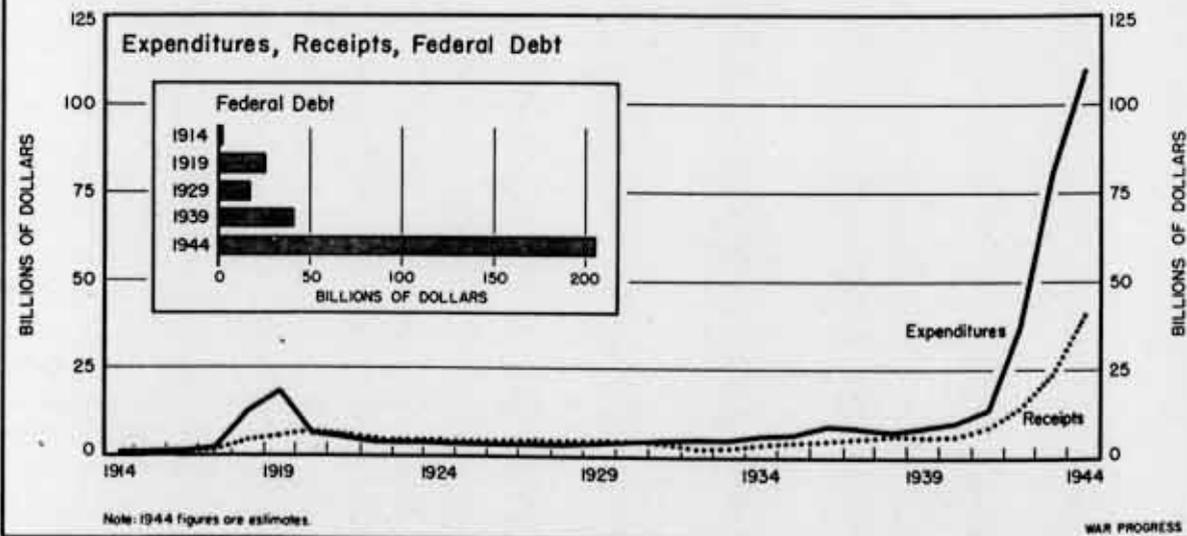
Today, the income tax is the great source of federal revenue, constituting more than 80% of the total. Before the first World War, income taxes were comparatively minor producers of revenue;

### FINANCING THE GOVERNMENT IN TWO WARS

Expenditures in fiscal '44 estimated to be six times as great as in 1919, receipts rise eight times. Treasury borrows 64% this time, 72% last time.



\* Distribution of 1944 borrowings cannot be estimated but 1943 offers due to trends.  
 † Participation by Commercial Banks is understated to the extent that they lent funds to individuals to "borrow and buy."



Note: 1944 figures are estimates.

the income tax didn't become law until 1913. Then, customs, duties, and excise taxes brought in about 90% of the receipts. But during the war, Congress turned increasingly to direct taxation of individuals and corporations. Income tax rates and receipts soared. In 1918 and 1919, well over 40% of the Treasury's receipts came from corporations; this time it's not quite so much. In 1944 individual taxpayers are the big payers—46.6% of estimated receipts:

Fiscal Year	% Receipts Contributed by		
	Individual Income Tax	Corporate Tax	Customs, Excise, etc.
1939.....	18.2%	20.4%	61.4%
1940.....	16.6	19.3	64.1
1941.....	17.2	24.8	58.0
1942.....	23.7	34.5	41.8
1943.....	28.0	40.8	31.2
1944*.....	46.6	34.9	18.5

\* Estimated

## War Progress Notes

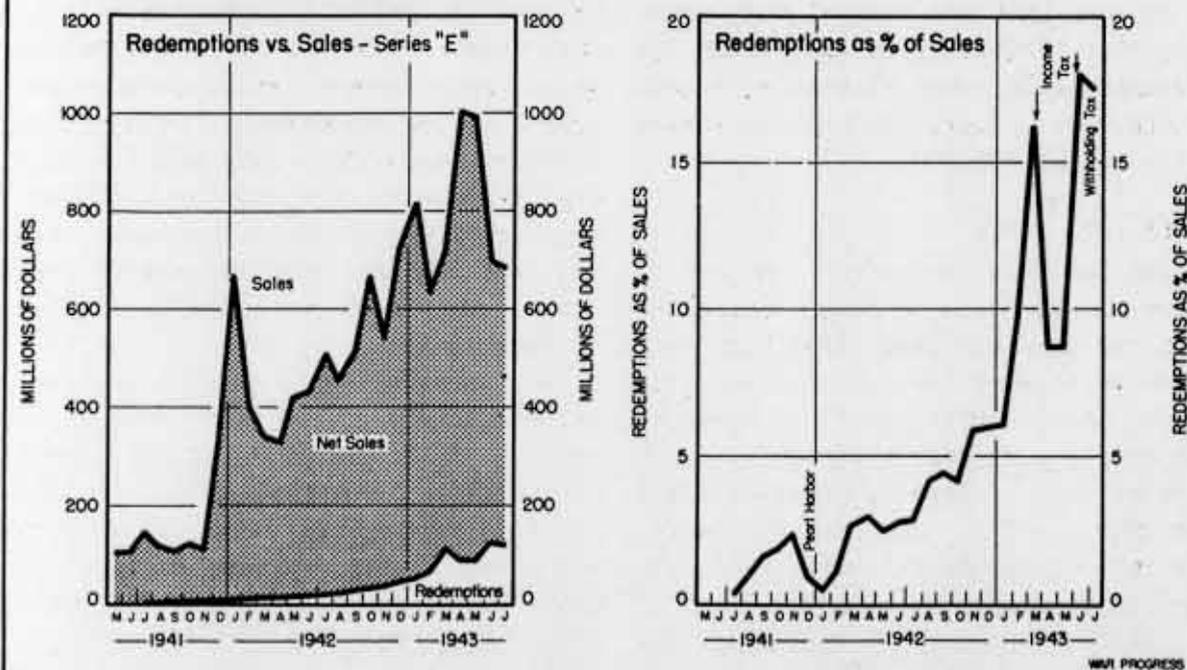
### PLATEAU FOR U.S. JOB ROLLS?

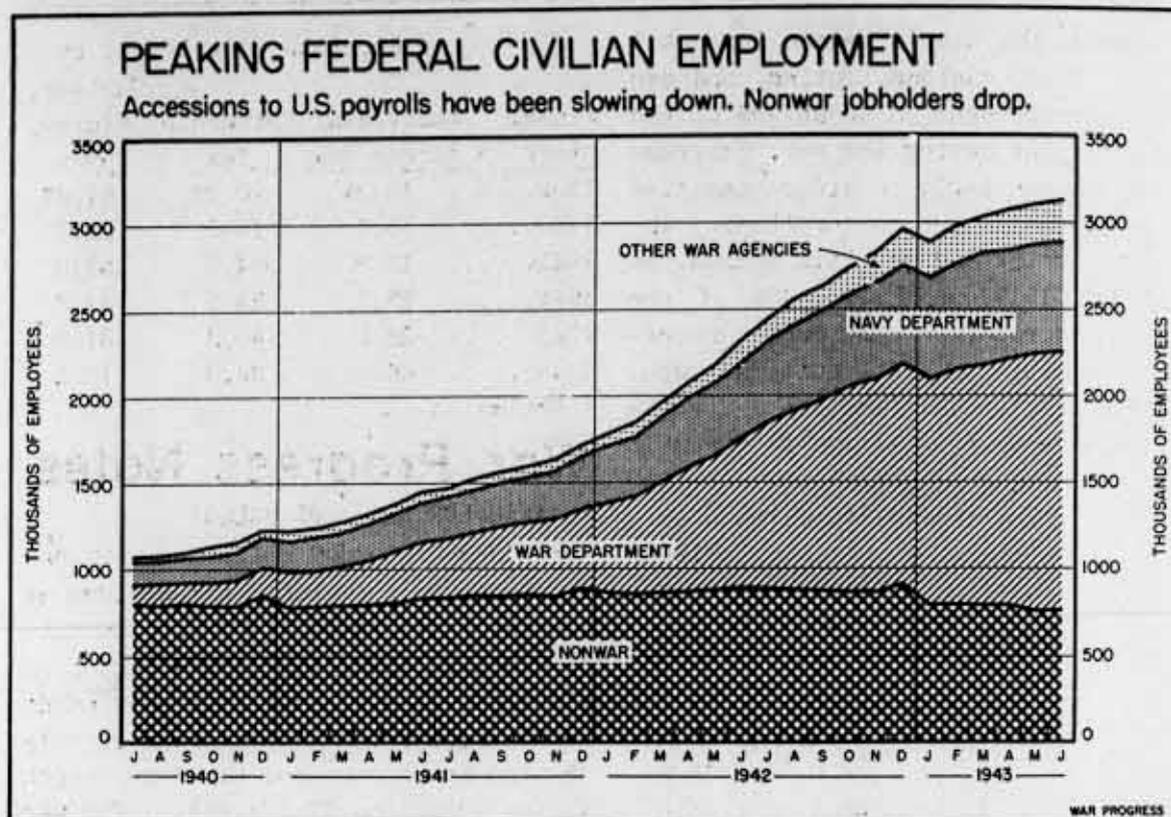
MORE THAN 3,000,000 civilians are now on Uncle Sam's payroll, three times as many as three years ago. But the rate of increase has been slackening; from January to June of this year government rolls increased at an average of only 1% a month as compared to 6% per month during 1942, and 3% for 1941. The war agencies (War, Navy, and emergency agen-

Fiscal Year	% Receipts Contributed by		
	Individual Income Tax	Corporate Tax	Customs, Excise, etc.
1914.....	3.8%	5.9%	90.3%
1915.....	5.9	5.6	88.5
1916.....	8.7	7.3	84.0
1917.....	16.0	16.0	68.0
1918.....	17.1	46.1	36.8
1919.....	15.0	43.6	41.4

## TAXES HOLD BACK WAR BOND SALES

Income tax in June and withholding tax in July cause not only a sharp drop in sales, but also a sharp rise in redemptions.





cies) comprised 75% of total federal employment in June as against 25% three years ago (chart, above). Nonwar federal employment has declined all this year.

In the last war federal employment more than doubled from June, 1916, to November, 1918, when it reached a peak of 920,000; by July, 1920, it had fallen 25% to about 695,000.

#### BONDS INTO TAXES

DURING the last two months, one out of every five People's War Bonds (Series E) sold has been redeemed. This high rate of redemption is traceable directly to income and withholding taxes. However, the practice of redeeming bonds is not new. As soon as legally possible after the first sales, many turned them in for collection. In November, 1941, redemptions rose to 2% of sales.

But Pearl Harbor reversed this trend

temporarily; redemptions dropped to less than 1% in December, 1941, and January, 1942. Then the upward climb was resumed, reaching 10% in February of this year. In March, because of the first-quarter income tax, redemptions boomed to 16%, then dropped back in April and May to 9%. In June, income-tax time was around again, and the percentage of redemptions hit a new high—18%. July would probably have shown a drop, but the withholding tax picked up where the income tax had left off and the redemption rate stayed at almost the same high level as June (chart, page 9).

Net sales of People's Bonds followed an irregularly upward path, reaching a peak of \$920,000,000 during the April bond drive. Then the tax months in June and July forced net sales downward to the lowest level in nine months. To date, gross sales have been \$12,700,000,000; redemptions \$870,000,000—7%.

## REPORTS ON REPORTS

### Petroleum Possibilities

Long-range prospects for Latin America's youthful oil industry, temporarily retarded by the war, appear to be good, according to *Petroleum* (confidential; pp. 10). The report examines current oil production and marketing in Latin America in relation to world output and consumption.

(Coordinator of Inter-American Affairs, Research Division)

### Ammunition Loaders

*Labor Market Survey of the Bag-, Bomb-, and Shell-Loading Industry* (confidential; pp. 70) reports insufficient utilization of manpower and plants—partially attributable to apparent failure of Army and Navy to pool their facilities—low pay, high rate of absenteeism. Recommendations: (1) better

distribution of contracts; (2) employment of more women, with concomitant extension of equal-pay-for-equal-work principle and improvement of day-care facilities.

(War Manpower Commission, Reports and Analysis Service)

### Plastics for Machines

Tools and dies, gears, and other machine parts are being made increasingly of *Plastics* (confidential; pp. 12), cutting into the plastic supply available to civilians still further. A recent maximum price regulation indicates the plastic industry's rise to maturity. (Department of Commerce, Bureau of Foreign and Domestic Commerce)

[This record is an attempt to select from the many documents coming to the attention of WAR PROGRESS those studies which would be of most interest to readers. The list is by no means comprehensive, and no attempt has been made to evaluate reports for accuracy. Whether reports are available depends on the policy of each individual agency.]

## SELECTED MONTHLY STATISTICS

### Production - Hours and Earnings - Transportation

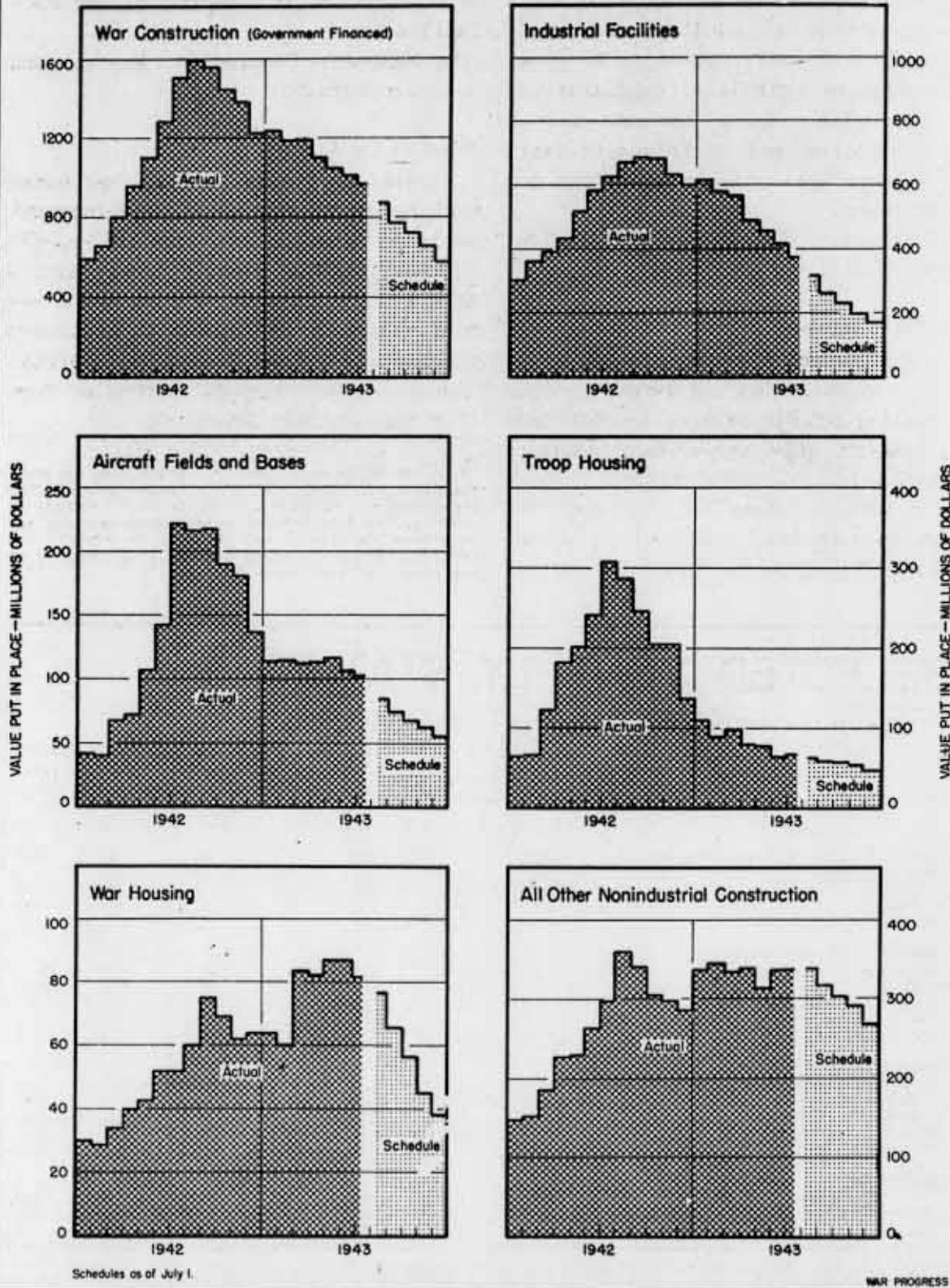
	Latest Month *	Preceding Month	2 Months Ago	6 Months Ago	Year Ago	Same Month 1939	Same Month 1937
PRODUCTION INDEX-INDUSTRIAL (1935-39=100) †	207 *	203	204	194	180	102	118
Total Manufactures	219 *	218	217	208	189	102	118
Durable	306 *	304	304	287	251	99	130
Nondurable	148 *	148	147	143	139	104	109
Minerals	142 *	122	133	116	131	106	115
AVERAGE HOURLY EARNINGS (Cents)							
All Manufacturing Industries	95.9 *	95.4	94.4	90.7	84.5	63.1	N.A.
Durable Goods	105.5 *	105.0	104.0	100.4	93.5	69.6	N.A.
Nondurable Goods	80.4 *	79.7	79.0	76.2	71.8	58.1	N.A.
Bituminous Coal Mining	112.4 *	111.9	112.8	108.5	108.6	88.6	88.6
Metalliferous Mining	98.3 *	98.4	96.2	93.1	88.2	69.5	71.7
AVERAGE HOURS PER WEEK							
All Manufacturing Industries	45.2 *	45.3	45.0	44.4	42.9	37.4	N.A.
Durable Goods	46.8 *	47.0	46.8	46.1	45.2	37.6	N.A.
Nondurable Goods	42.8 *	42.8	42.5	42.1	39.9	37.3	N.A.
Bituminous Coal Mining	28.3 *	35.6	36.9	35.7	33.5	25.2	25.9
Metalliferous Mining	44.9 *	44.3	43.9	44.0	43.8	39.4	43.5
TRANSPORTATION - COMMODITY AND PASSENGER (1935-39=100) †	214 *	211	208	191	180	106	113
Commodity	197 *	201	197	181	179	105	115
Passenger	269 *	247	246	226	181	108	109

\*Production, July; Hours & Earnings, Transportation, June. † Unadjusted. N.A. - Not available. p Preliminary.

CONFIDENTIAL

### PRODUCTION PROGRESS

#### War Construction



The President

# WAR PROGRESS

*Confidential*  
*(British Secret)*

**Aluminum: At Ease**  
**B Products—New Style**

**Production Progress Tables**

DECLASSIFIED  
EO 11652, Sec. 1.4(c) and 1.4(d) of (2)  
Commanco Dept. Letter, 1118-72  
By: KHF, Dale      MAR 29 1973

Number 155

September 4, 1943

## Aluminum Easier, Labor's Tighter

Cutback in airplane program produces small surplus despite manpower shortage, and squeeze will be intensified when and if aircraft firms meet rising schedules.

ALUMINUM has had tougher sledding than any major metal in the war program—not only because its expansion was most rapid and shifting (directly related as it was to the skyrocketing and shifting schedules of the airplane industry), but also because the expansion was an all-along-the-line job—from getting raw material for making aluminum to fabricating plants which process the metal. (Prewar processing facilities were incapable of processing hard war alloys, with the result that fabricating capacity had to start practically from scratch.) And the widening of one bottleneck inevitably created another.

But now the pressure has eased some-

what—largely because the airplane program has been cut back. Currently there is an excess of about 100,000,000 pounds of aluminum ingot on hand. This is not large—only about 3.6% of total estimated 1943 supply; however, it's symptomatic. Moreover, stocks are being added to at the rate of approximately 30,000,000 pounds per month.

### NOT WHAT IT SEEMS

But aluminum is not quite so easy as those facts suggest. New fabricating capacity—a rod and bar mill, two extrusion plants, and other units—now nearing completion, could easily require all of the available excess for working inventory. Further, there exist many military uses for aluminum, which—if permitted—would quickly consume this and additional supplies. Still further, the airplane program is always subject

### BIG BOMBERS BOOST AUGUST PLANE OUTPUT

AUGUST'S AIRPLANE GAIN was the best since May. On an airframe weight basis, last month's acceptances were up 7%, against recent monthly gains as follows:

May.....	10%
June.....	3%
July.....	4%

The showing was 13% short of the W-6 schedule.

In all, 7,570 planes came through (excluding 42 Targets and Drones and 613 gliders); this was 244 planes—or 3%—higher than July, but the schedule called for a gain of 1,177.

Heavy bombers crossed the 900 mark

for the first time; 530 Liberators were accepted, 383 Flying Fortresses. This group ran 11% above July and only 3% behind the W-6 schedule. In addition, Boeing, Wichita, turned out four long-range super bombers.

Labor problems and design changes again held up output. The failure of heavy bombers to attain the full forecast was largely due to a 10%-behind-schedule performance at Boeing, Seattle, where employment is now 6% lower than in January; and at Lockheed, Burbank, another of a series of engineering changes in P-38 Lightnings contributed to a 73% deficit.

to change—though it hardly seems likely, with plane output currently lagging behind schedules, that a sharp upward jump is in the immediate offing.

Future aluminum supplies cannot be counted until they come off the pot-lines (reduction furnaces). And labor has become a problem there.

**HAS COME A LONG WAY**

So far this year, manpower shortage at the pot-lines has cost the nation about 75,000,000 pounds of aluminum, as newly completed plants could not be operated right away. There are also persistent fabricating bottlenecks in extrusions, small hammer forgings, certain castings, and small rods, due in part to manpower. Yet, all in all, aluminum production has come a long way—from a domestic annual output of 400,000,000 pounds of ingots in 1940 to nearly 2,000,000,000 pounds today; imports and scrap have also mounted, viz:

Year	Primary		
	Output	Scrap	Imports
	(in millions of pounds)		
1940....	418.6	160.7	30.1
1941....	618.3	188.4	25.2
1942....	1,042.2	370.4	253.3
1943....	1,840.6	573.3	456.0

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Aluminum has had to contend with a hidden, hard-to-calculate and hard-to-foresee consumer: the pipeline. Statistically, as the following table shows, supply always seemed to run comfortably ahead of consumption, viz:

Year	Consumption	Supply
	(millions of pounds)	
1940.....	607.1	609.4
1941.....	670.0	831.9
1942.....	1,393.5	1,665.9
1943.....	2,613.1	2,869.9

But what seemed like a surplus was not a surplus at all. As production rose, more ingot aluminum had to be available at the alloying furnaces; more alloyed aluminum was needed in the form of sheet bars or rod billets for the rolling mills; more metal was required for the expanding operations of forging hammers, extrusion presses, casting foundries, etc. This work-cycle, or "pipeline," aluminum is now estimated at 550,000,000 pounds—more than total domestic output in 1940. And it may rise to 700,000,000 pounds at peak.

**PIPELINE PRESSURE EASED**

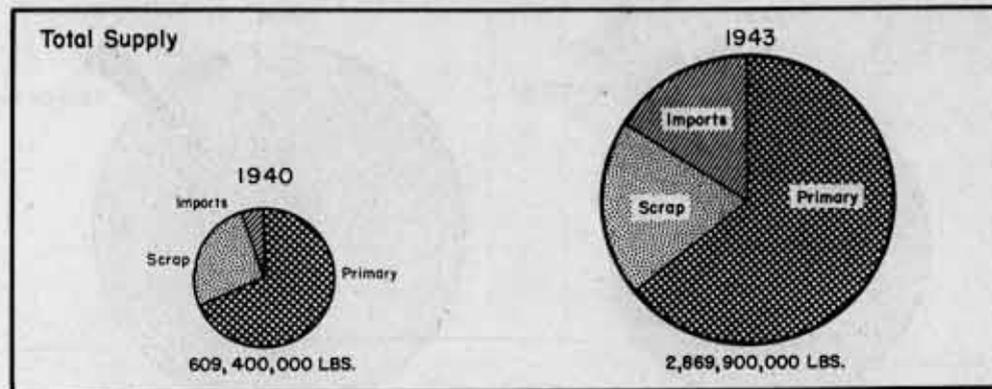
Six months ago a shortage of work-cycle ingot aluminum prevented processing plants from working at capacity. By cutting inventories at certain points, the Aluminum Division "saved" 75,000,000 pounds of ingot aluminum. And the pipeline may be squeezed for an additional 100,000,000 pounds if such a "cushion" becomes necessary. But at present, with processing and airplane plants getting all the aluminum they need, pressure on the pipeline has been relaxed.

Airplane industry inventories have been building up sharply—an indication that the recent slowing down in expansion of plane production has not been due primarily to aluminum shortages. Right now, aircraft pipelines amount to an estimated 528,000,000 pounds of alu-

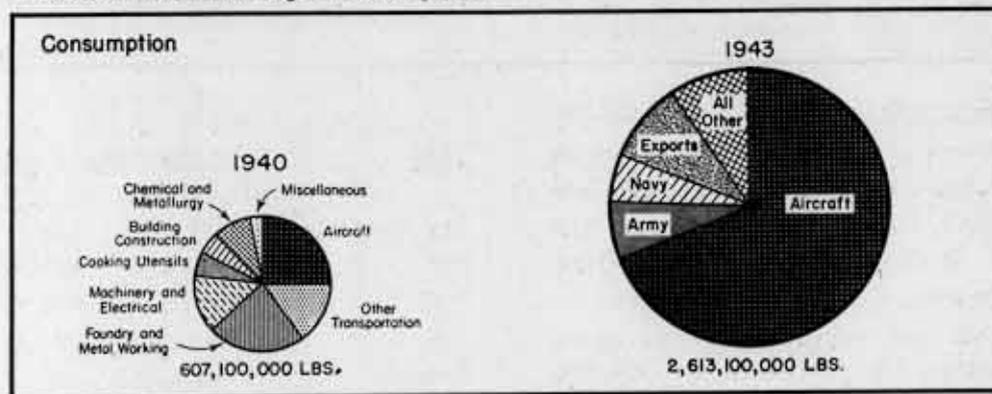
### THE PAST, PRESENT, AND FUTURE OF ALUMINUM

Total supply has increased 370% since 1940; demand, 330%. Aircraft now gets 69% of consumption as against 25% then.

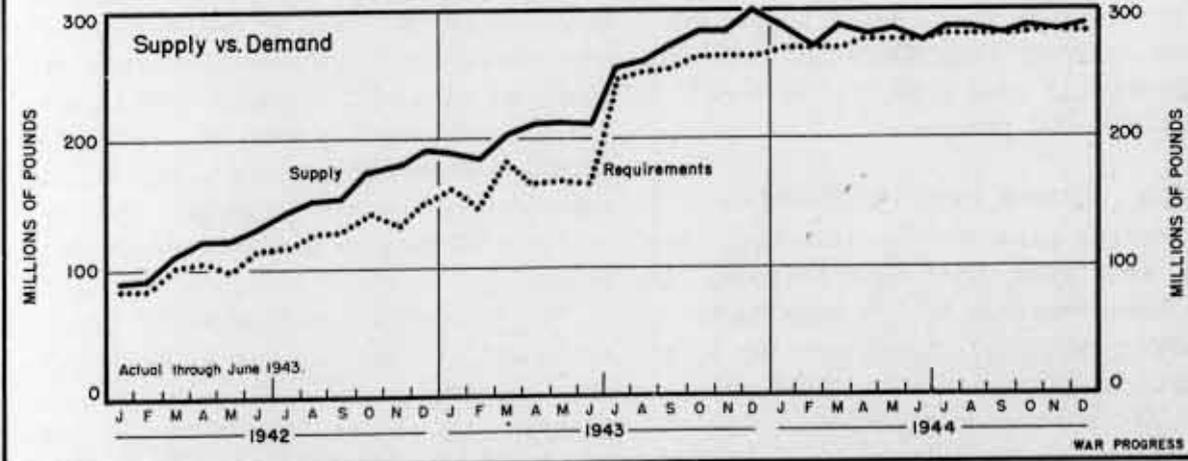
This is where aluminum has come and is coming from:



This is where it has gone and goes:

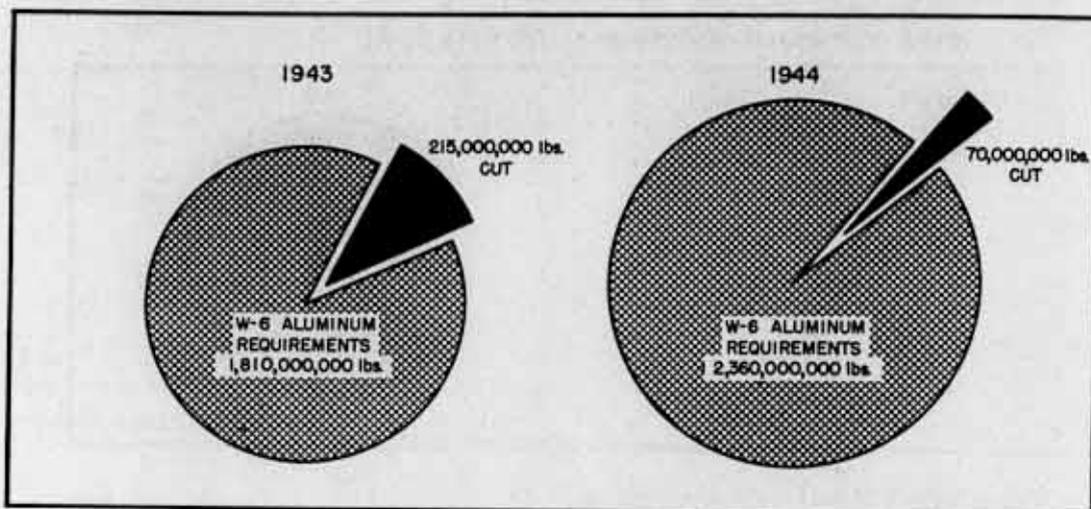


And this is the current supply-demand outlook:



### ONE BYPRODUCT OF THE CUTBACK IN AIRPLANES...

Is the cutback in aluminum requirements. Change from B-L to W-6 saves 285,000,000 pounds this year and next.



WAR PROGRESS

minum—200,000,000 pounds is actually work-in-process; the remainder is uncut stock (inventories). In May, the industry added 6,000,000 pounds to the pipeline. This suggests that airplane plants have been unable to use metal as fast as they are getting it. At peak, this pipeline may reach 634,000,000 pounds—four months' supply—enough to cover the industry's average lead time in production. This, added to the aluminum industry's own 700,000,000 pounds, means a total peak pipeline of more than 1,300,000,000 pounds.

#### RUSSIA, BRITAIN BENEFIT

Because domestic consumption has not kept pace with expectations, it has been possible to (1) move Russia's fourth-quarter allotment into the third quarter and (2) divert to Great Britain 180,000,000 pounds of Canadian aluminum scheduled to be shipped here in 1944. Here is how aluminum supply is forging progressively ahead of allotments:

1943	Total	
	Supply	Allotments
(millions of lbs.)		
1st quarter...	582.1	534.8
2nd "	633.4	585.5
3rd "	790.4	661.6
4th "	871.2	774.0

Reasons why allotments are rising more slowly than supply include (1) more careful screening of aircraft requirements based on bills of materials; (2) more conservative statements of requirements by claimant agencies—experience has made estimating more accurate; (3) trimming down allocations to processing capacity—in hammer forgings, for example; (4) cutback in the aircraft program.

The Aluminum Division still has a re-education job on its hands. During the depression, the aluminum industry touted the advantages of new metal over secondary metal—and consumers kept away from the use of scrap. This use habit carried over into the war

with the result that increased production of scrap mounted out of proportion to increased use of secondary aluminum, backing up the scrap and taxing storage facilities. The division met this with a coordinated "sales" and segregation program.

**SCRAP FLOWING FASTER**

But now that overall demand for aluminum has eased, the Aluminum Division has encouraged the Army and Navy to expand their uses of secondary aluminum in items such as gun director parts, in which substitute materials had formerly been used; the steel industry has been permitted to use increased quantities of secondary aluminum for deoxidizing; Russia has agreed to accept one-third of its fourth-quarter requirements in secondary, instead of 100% primary, aluminum; and a program is being pushed to eliminate specifications calling for primary metal when secondary would do.

Results are already apparent in the swifter flow of scrap. Moreover, it is likely that the oversupply of scrap in fabricators' and dealers' hands, amounting to 10,000,000 pounds 30 days ago, will be dissipated within 90 days. But here again labor shortages have hampered scrap processing by smelters. Big factor in the Aluminum Division's re-education drive has been the policy of scrap segregation; about 90% of the scrap currently being marketed is segregated, as against 30% two years ago.

The fact that there now is enough aluminum, both primary and secondary, does not mean that it is available in adequate quantities in the required shapes and sizes. Bottlenecks still exist. And unbalanced demands create spot bottlenecks—examples: demand for tube blooms, which occupy a lot of time on extrusion presses, reduces the output of extruded shapes; demand for small

rods exceeds capacity, though overall rod demand is below total rod-making capacity; production difficulties, including labor and large rejections, prevent castings output from reaching capacity levels, especially in cylinder heads and permanent molds; while demand for small hammer forgings exceeds current output of facilities (not fully manned due to labor shortages), although capacity is available in press forgings.

To overcome these bottlenecks, capacity is being expanded for forgings and extrusions; small rod output will be increased by using extrusion presses formerly utilized in making tubing (now that tubing demand has been cut); and attempts are being made to lower specifications for certain types of castings.

**HELP WANTED**

But, overall labor is the biggest problem ahead. Estimates as of May indicated 147,490 new employees will be required during the final seven months of 1943, as follows:

Industry Section	Additions Required June-Dec.	Replacements for Turnover	Total Labor Needed
Bauxite...	200	950	1,150
Alumina...	200	3,655	3,855
Sinter...	720	65	785
Aluminum..	3,200	9,500	12,700
Smelting..	800	4,500	5,300
Sheet....	5,300	5,200	10,500
Rod & bar.	4,400	4,400	8,800
Extrusions	6,700	5,400	12,100
Castings..	36,000	37,000	73,000
Forgings..	8,700	7,000	15,700
Tubing...	1,100	1,500	2,600
Rivets....	200	800	1,000
Total....	67,520	79,970	147,490

The manpower problem is no simple, isolated problem. Many of the aluminum plants are located in such labor-short areas as Detroit, Cleveland, Buffalo,

Los Angeles and Bridgeport. Therefore, intrinsically and inescapably, it is part of the overall squeeze in these particular localities. The labor shortage may not affect airplane production so long as the aircraft industry, itself, fails to meet its schedules. But any sharp upswing in plane production—approaching schedules—would roll back on aluminum.

## A Treatment for B Products

Claimant agencies in CMP now have right to single out strategic items for straight-line handling; horizontal (PRP) distribution narrows accordingly.

FOR SEVERAL MONTHS, the Controlled Materials Plan has been undergoing an inner adjustment. Many B products—orphans under the original CMP system—have been getting themselves parents. Evidence of this is clear. At the outset, there were 416 B product groups; today the list has been reduced to 324. Moreover, carbon steel allotted for B products in the third quarter was 28% of total allotment, as against only 20% in the fourth quarter.

The original idea of CMP was straightforward and simple: The Army is the father of the tank program, therefore, let the Army estimate steel, copper, and aluminum requirements for tanks; let it claim for these materials before the Requirements Committee, and finally, after it receives its allotments of materials, let it distribute the steel, copper, and aluminum to its prime contractors for tanks. These prime contractors, in turn, would redistribute the materials to their subcontractors and suppliers. Similarly, the Navy would claim and distribute materials for naval ships and ordnance; the Maritime Commission for merchant vessels; the Aircraft Resources Control Office for airplanes.

In other words, the parents of the munitions items—tanks, guns, ships,

etc.—claimed for them. These were the A products.

But from the start of CMP it was apparent that for thousands of intermediate and civilian-type products—bearings, electric motors, cookstoves, pumps, radiators, batteries, nuts and bolts—there were not one, but several claimants. The Army, Navy, Maritime Commission, the Office of Defense Transportation, and the Facilities Bureau all require bearings in their various programs. The Army, Navy, ARCO, and ODT require a variety of types of kitchen equipment—the Army for its camps, the Navy for its ships and bases, ARCO for airplanes, ODT for passenger trains, etc.

### AN EXCESS OF PARENTS

Such items had too many parents, hence no parents. They became orphans. At first the job of acting as claimant for materials for B products was assigned to the Office of Civilian Supply; later it was delegated among the various WPB Industry Divisions, and a horizontal line of materials distribution was adopted—a type of Production Requirements Plan within the CMP system. The Industry Divisions were expected to estimate how many bearings, fans or blowers, stoves, etc. were required to meet the programs of all claimant agencies; then the divisions were supposed to translate these estimates into tons of steel, copper, and aluminum, and submit these estimates to the Requirements Committee. After that, the divisions would allo-

cate the materials directly to manufacturers of bearings, fans and blowers, cookstoves, etc. on the basis of priorities and preference ratings. In effect, then, each B product was a small PRP unto itself.

**CLAIMANTS LACKED CONTROL**

And, as under PRP, materials did not flow directly from claimant to producer to end product. The claimant agencies were remote from the B products. They helped the Industry Divisions estimate requirements at the outset, but had no direct control over the allotment of materials to manufacturers, the scheduling of output, or the ultimate distribution of the bearings, fans and blowers, cookstoves, etc. Yet, to the Navy, diesel engines were essential to its programs; the Navy wanted to be certain that enough steel or copper was

allotted for diesels; likewise that manufacturers were making the types of diesels needed. The Navy, in short, wanted to be as close to the diesel engines as ARCO was to propellers, which always had been treated as an end munitions item.

But the Navy is not the sole claimant of diesels, as ARCO is of propellers. Diesels are needed by the Army for utility and service craft; by the Office of Defense Transportation for locomotives; by the Maritime Commission for merchant ship equipment, and for other uses by various civilian agencies. So a system had to be devised whereby material allotments to several agencies for certain types of B products could be handled in straight-line CMP procedure rather than under a horizontal system. This meant de-orphaning diesels and other B products in which particular claimants have

**KEY STATISTICS OF THE WEEK**

	Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
War program - Checks paid (millions of dollars) -----	1,478	1,777	1,425	1,431	1,136
War bond sales (millions of dollars) -----	180	165	275	273	151
Wholesale prices (1926 = 100)					
All commodities -----	102.9 <sup>p</sup>	102.8 <sup>p</sup>	102.8 <sup>p</sup>	102.7	98.9
Farm products -----	124.0 <sup>p</sup>	123.8 <sup>p</sup>	124.3 <sup>p</sup>	121.2	106.0
Foods -----	105.5	105.8	106.4	106.0	100.7
All other than farm products and foods -----	97.3 <sup>p</sup>	97.3 <sup>p</sup>	97.1 <sup>p</sup>	96.5	95.7
Petroleum:					
Total carloadings -----	55,875	58,213	57,729	52,239	53,748
Movement of cars into the East -----	28,125	30,111	31,066	26,592	27,266
East coast stocks for civilian use (1940-41=100 Seas Adj.)	39.1	36.8	34.9	35.7	58.7
Total stocks of residual fuel oil (thousands of barrels) -----	67,250	66,724	66,877	70,140	78,270
Bituminous Coal:					
Production (thousands of short tons, daily average) -----	1,987	2,005 <sup>n</sup>	2,025	2,027	1,844
Exports (no. of freight cars unloaded for export Friday, excl. grain)					
Atlantic Coast ports -----	2,651	2,584	2,580	1,406	1,635
Gulf Coast ports -----	351	353	335	448	320
Pacific Coast ports -----	1,359	1,444	1,304	883	724
Unused steel capacity (% operations below capacity) -----	0.6%	0.6%	2.3% <sup>n</sup>	1.8%	2.4%
Department store sales (% change from a year ago) -----	+1%	+14% <sup>n</sup>	+11%	+26%	-13%

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a direct and strategic interest. Three new categories of B products have been set up:

1. Special B products.
2. Class A civilian-type end products.

3. Programmed B products.

Special B products are largely component parts of end munitions items—such as diesel engines and navigation instruments. And, in the case of aircraft, special Bs reach far down into

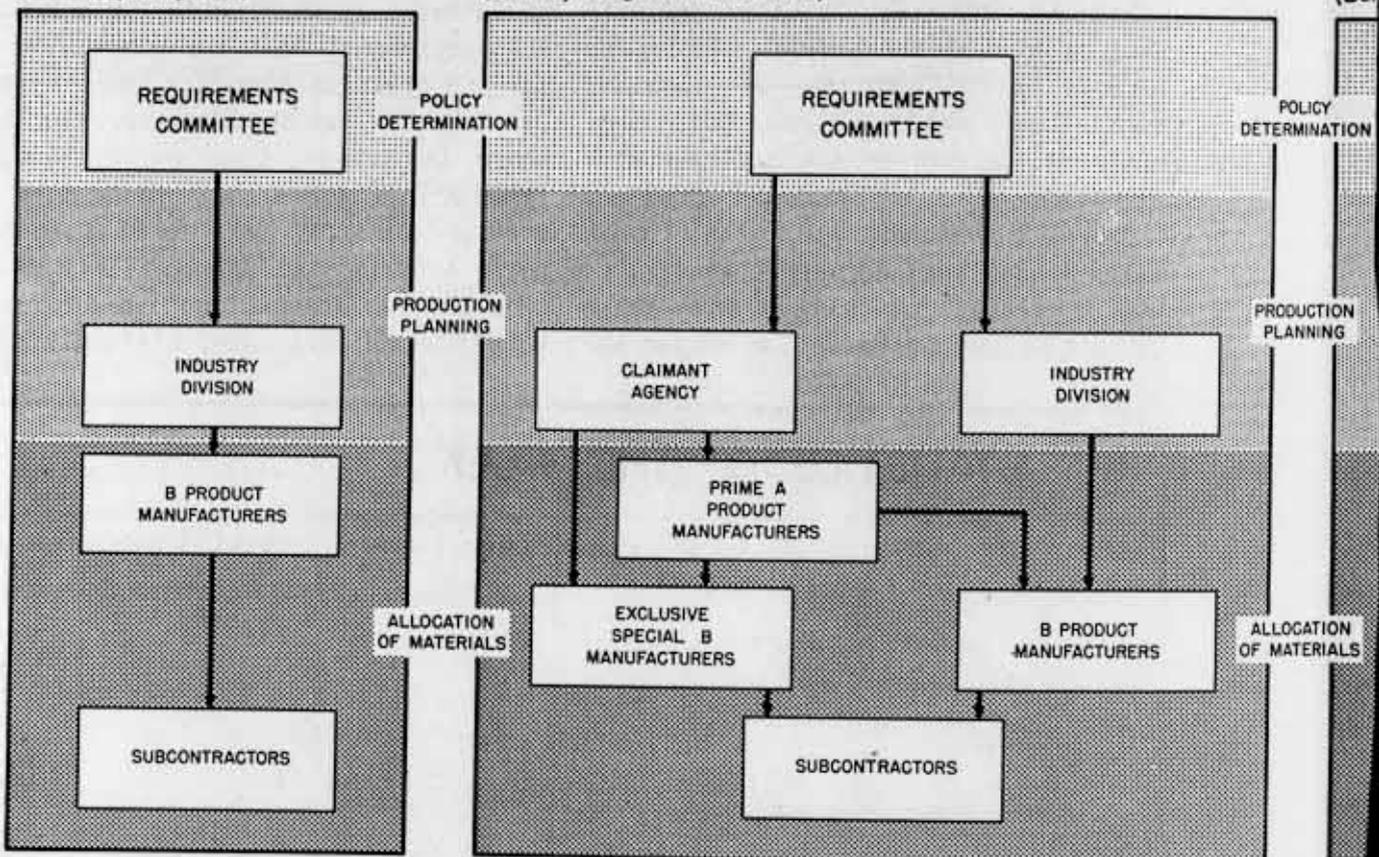
THROUGH THE CMP PAPER MILL WITH B PRODUCTS — FROM REQUIREMENTS

Steel, copper, and aluminum B allotments now flow in four different ways, as claimant agencies get increasing

Pure B Products  
(Bearings, Nuts, Bolts)

Special B Products  
(Diesels, Navigation Instruments)

Civilian  
(Bulbs)



THERE ARE FOUR TYPES OF B PRODUCTS. THE PURE B PRODUCT IS THE B PRODUCT WE'VE ALWAYS KNOWN ABOUT UNDER CMP. CLAIMANT AGENCIES MAKE ESTIMATES OF HOW MANY BEARINGS, RIVETS, OR STORAGE BATTERIES THEY WILL REQUIRE, OR THE APPROPRIATE INDUSTRY DIVISION MAKES SUCH ESTIMATES FOR THEM. THE INDUSTRY DIVISION THEN MAKES A REQUEST FOR MATERIALS TO THE REQUIREMENTS COMMITTEE. AFTER RECEIVING THE ALLOTMENT, THE INDUSTRY DIVISION (AS THE LEFT-HAND DIAGRAM SHOWS) DISTRIBUTES THE ALLOTMENTS DIRECTLY TO THE MANUFACTURERS OF B PRODUCTS; THE FINISHED BEARINGS OR BATTERIES THEN ARE DELIVERED TO PRIME AND

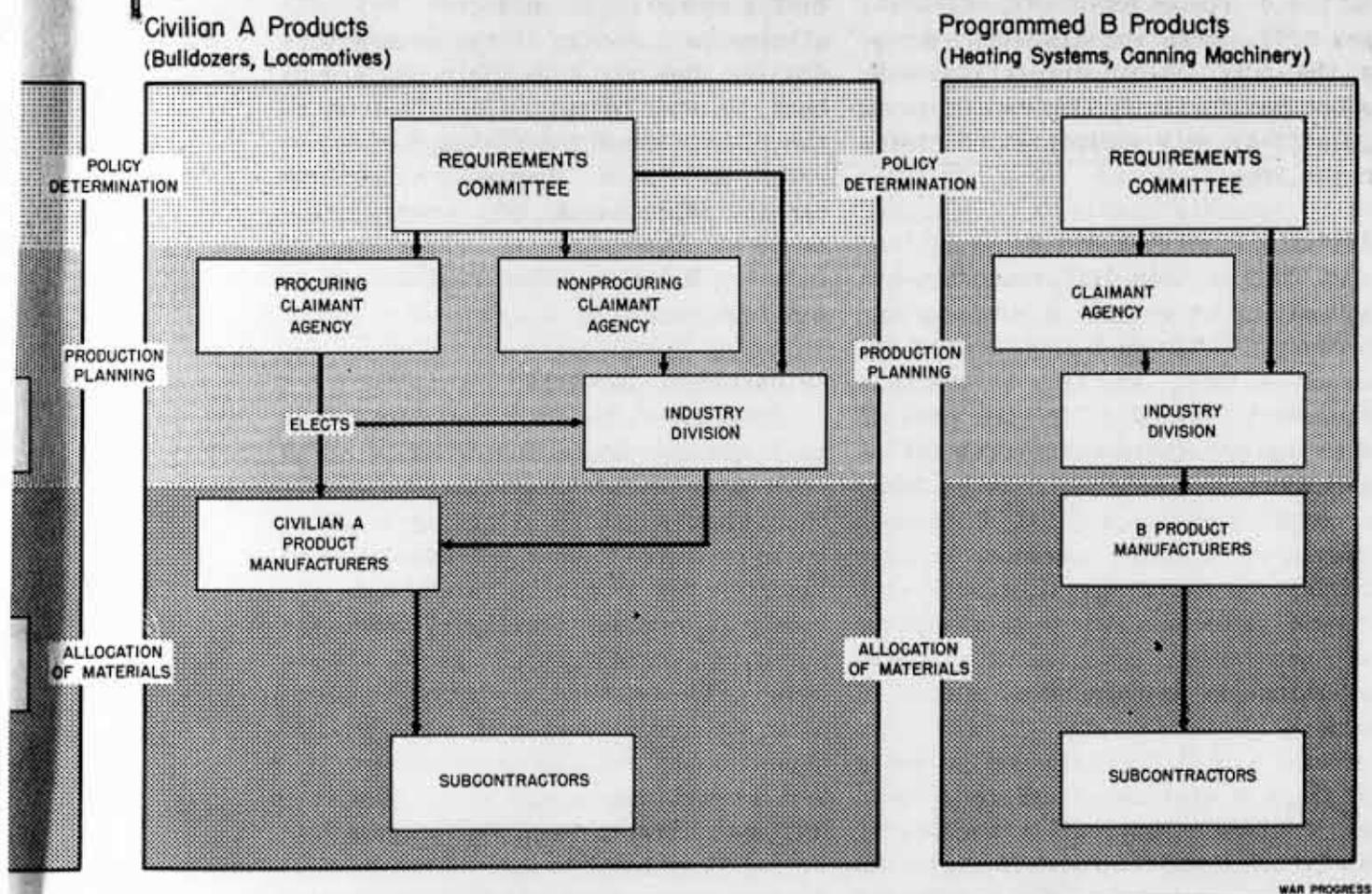
SECONDARY CONTRACTORS ON THE BASIS OF THE PRIORITIES RATINGS OF THE PROGRAMS THEY ARE WORKING ON. A TANK BUILDER OR SUBCONTRACTOR WOULD HAVE A HIGHER RATING, PRESUMABLY, THAN A MAKER OF TEXTILE MACHINERY.

FOR SPECIAL B PRODUCTS THE PROCEDURE IS DIFFERENT. HERE THE OBJECT IS TO TIE IN THE PRODUCTION OF PARTICULAR B PRODUCTS WITH THE END PRODUCTS OF PARTICULAR PROGRAMS—MARINE DIESEL ENGINES, FOR EXAMPLE, WITH THE PROGRAMS OF THE NAVY OR MARITIME COMMISSION. IN THIS CASE, THE REQUIREMENTS COMMITTEE ALLOTS DIRECTLY TO THE CLAIMANTS; THE CLAIMANTS THEN REALLOT DIRECTLY TO EITHER (1) THEIR PRIME

relatively small things, such as cotter pins, hinges, rivets, etc. These are so important to airplane manufacture that the Aircraft Resources Control Office feels impelled to see their production through from raw material to plane manufacturer. But such items would not necessarily be special B products for other claimants, and would be handled as ordinary Bs. Similarly, the Army wants to check up on bakery equipment; soldiers have to have their bread;

### REQUIREMENTS COMMITTEE TO MANUFACTURERS

get increasing responsibility over distribution and scheduling of diesels, bulldozers, heating systems, etc.



CONTRACTORS OR (2) TO THE B MANUFACTURERS. STRAIGHT-LINE ALLOTMENT ALSO TAKES PLACE IN CIVILIAN A PRODUCTS, BUT THERE IS THIS DIFFERENCE FROM SPECIAL BS: NONPROCURING AGENCIES, SUCH AS WAR FOOD ADMINISTRATION, TURN THEIR ALLOTMENTS OVER TO INDUSTRY DIVISIONS FOR DISTRIBUTION TO B-PRODUCT MANUFACTURERS. PROCURING AGENCIES HAVE A CHOICE. PROGRAMMED BS ARE PRODUCTS WHICH TIE INDIRECTLY WITH A CLAIMANT'S END PROGRAM—FOR EXAMPLE, BUILDERS' HARDWARE WITH THE NATIONAL HOUSING AGENCY'S HOME-BUILDING PROGRAM. CLAIMANTS PUT IN THEIR ESTIMATES OF REQUIREMENTS TO THE REQUIREMENTS COMMITTEE, BUT

THE ALLOTMENTS AUTOMATICALLY GO TO THE INDUSTRY DIVISION FOR DISTRIBUTION AMONG THE MANUFACTURERS. THE PROCEDURE IS NOT DISSIMILAR FROM ORDINARY BS. EXTRAORDINARY B PRODUCTS—THE SPECIAL BS, CIVILIAN AS AND PROGRAMMED BS—ALL SUBDIVIDE INTO TWO PARTS. ONE OR MORE PARTICULAR CLAIMANTS WITH A STRATEGIC INTEREST IN A PARTICULAR B PRODUCT CAN GET IT REMOVED FROM THE ORDINARY B LIST, AND FOR THEM IT BECOMES AN EXTRAORDINARY B. BUT FOR OTHER CLAIMANTS, IT IS AN ORDINARY B PRODUCT, AND THE INDUSTRY DIVISION CLAIMS AND DISTRIBUTES THE STEEL, COPPER, AND ALUMINUM TO THE MANUFACTURERS.

and again, bakery equipment would not necessarily be a special B for all claimants.

By and large, the handling of special B products is identical with that of A products or A-product components. Once the Requirements Committee makes an allotment to the claimant agency, the claimant agency reallots either to its prime contractors for the A end product or to the B-product manufacturer (chart, pages 8,9). When the claimant agency, say the Army, allots directly to a B-product manufacturer, that manufacturer is, in effect, an A-product manufacturer for the Army.

#### DIFFERENCE BETWEEN A AND B

But there is this difference between the handling of special B products and A products. In the case of an A product, such as a tank, the Army is the sole procurement agency. In the case of diesel engines, there are several claimants. Therefore, some way must be found to coordinate the special B product programs of various claimants. To that end the WPB Industry Divisions work with claimant agencies to help integrate their production schedules or allocate facilities to manufacture special B products.

Class A civilian-type end products also have a distinctly military cast. They include construction machinery, 85% of which goes to the armed services; locomotives and freight cars—again the Army is a big buyer, and so is the Office of Defense Transportation; fire apparatus and metal drums, required by the military forces as well as civilians. But there is also farm machinery, primarily a civilian item, in which the War Food Administration is the interested claimant agency.

Civilian A products also take on the characteristics of ordinary As. But

procedure differs from that of the special Bs in one important respect: Claimant agencies are divided into two groups: (1) procuring claimants, such as the Army, Navy, Maritime Commission, and (2) nonprocuring claimants, such as War Food Administration, Office of Defense transportation, Office of Rubber Director (agencies which do not make contracts directly with manufacturers). The procuring agencies, in this case, may make allotments directly to the manufacturers, or they may turn their allotments back to the Industry Division, which then distributes the claims for materials. As a rule, they make allotments direct. Allotments of nonprocuring agencies automatically revert to the Industry Divisions for reallotment to manufacturers.

#### NO HARDWARE, NO HOMES

Programmed B items have a civilian cast, and tend to be end products which control or limit the agencies' programs. There is no point in allotting steel to build a large number of dwellings if simultaneous provision is not made for stoves or ranges, heating systems, and builders' hardware to go into those houses. Nor is there any point in planning a huge expansion in milk production if dairy and milk products machinery is not made available. Thus, the National Housing Agency's program depends not only on how much steel it will receive for girders, but also on whether it gets steel for heating systems and whether the facilities to make heating systems are available; likewise the War Food Administration must be certain that its milk program ties in with the production of dairy machinery, and so on.

In the case of programmed B products, all allotments revert to the Industry Divisions, which then divide the pie among the B-product manufacturers. To

the extent that Industry Divisions schedule production of programmed B products they are responsible for seeing that claimant agencies receive the quotas to which their allotments entitle them. But if production is not scheduled by the Industry Division, then the claimant agency for the programmed B product must take its chances. Distribution then is through preference ratings as with ordinary B products, and the military claimants have the highest ratings. A programmed B product (as with special Bs or civilian As) is not necessarily a programmed B product for all claimants. Builders' hardware, for example, is a programmed B for the National Housing Agency—an ordinary B for anybody else.

The variations in procedure stem mainly from variations in aptitudes of the claimant agencies in programming and scheduling. The procuring agencies have been geared up to this by experience and hence are less dependent on the Industry Divisions than the nonprocuring agencies in allotting materials to manufacturers.

#### WHAT DE-ORPHANING DOES

Regardless of the procedure, however, the basic purpose is the same—to put as much of the distribution of controlled materials on as straight line a basis as possible; to tie claimant agency allotments as closely as possible to the products the claimant agencies need to fulfill their authorized end product programs. And that's what de-orphaning B products accomplishes. Less and less steel, copper, and aluminum is subject to horizontal PRP distribution. This carries out the original CMP idea; and while a few more B items may be switched over into the other categories, the B product area, as it stands today, has been stabilized.

## At Halfway Mark

JULY MUNITIONS production has been revised downward slightly from the preliminary figure (WP-Aug14'43, pl) and now stands at \$5,221,000,000. This represents a 3% rather than a 4% rise from June output and compares with a 2% increase from May to June. The lag behind schedule in July remains at 9%.

Naval vessels, ordnance and equipment showed the greatest month-to-month improvement—up 7% on a value-put-in-place basis—but had the greatest deficit from schedule—13%. Aircraft and related munitions and equipment rose 5% from June but missed schedule by 12%. Production lags in both of these categories—two major areas in which the 1943 program is still expanding rapidly—ran heavily to low-priority items.

#### SCHEDULES CUT \$200,000,000

The value put in place on merchant vessels was down 4% from June and 11% off schedule. Ground army munitions made schedule—on the dot—and their output rose 5% from June.

Munitions schedules for the last five months of the year have been reduced about \$200,000,000. The August 1 schedules call for \$65,800,000,000 in munitions this year (table, page 12). Half of this had been realized in the first seven months. Ground ordnance and merchant vessels passed the halfway mark in July. Naval vessels were just about at it; aircraft had not quite reached it.

The newest overall schedule cannot be met. Even if the average gains of the first seven months were maintained during the rest of the year, 1943 munitions output would reach only \$62,000,000,000. And recent performance offers no assurance that such gains can be readily realized.

## PRODUCTION PROGRESS

General Summary (Value of production, in millions of dollars)

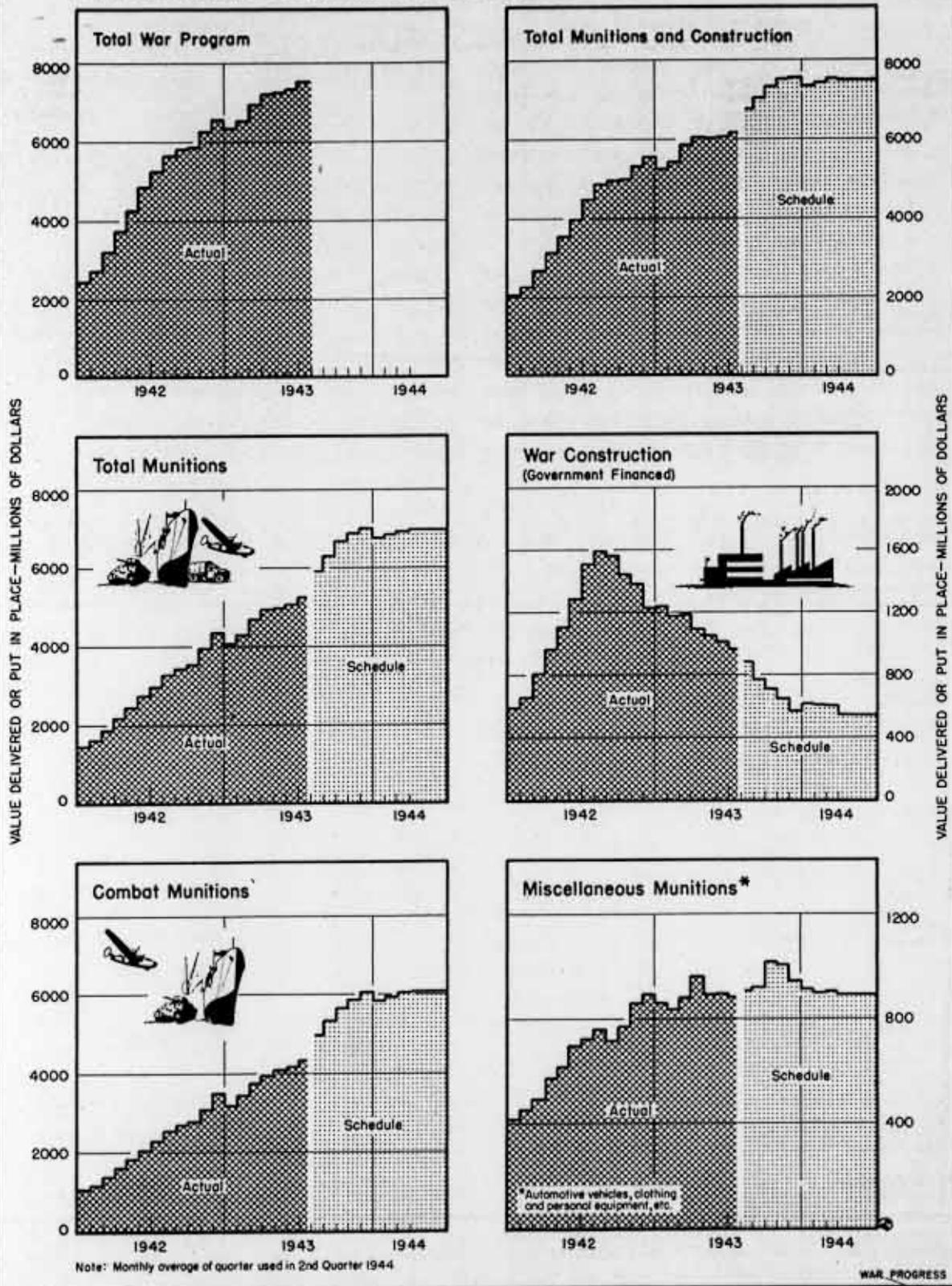
MONTH OR MONTHLY AV.		Total Program	Total Munitions & Construction	Total Munitions	War Construction (Gov't Financed)	Miscel. Munitions	MONTH OR MONTHLY AV.		
Valuation of Actual Production	1942 - 1st Quarter	\$ 2,790	\$ 2,328	\$ 1,648	\$ 681	\$ 453	1st Quarter - 1942	Valuation of Actual Production	
	2nd Quarter	4,233	3,554	2,440	1,114	629	2nd Quarter		
	3rd Quarter	5,557	4,780	3,223	1,557	735	3rd Quarter		
	4th Quarter	6,220	5,305	3,954	1,351	840	4th Quarter		
	1943 - January	6,307	5,279	4,045	1,234	853	January - 1943		
	February	6,519	5,460	4,274	1,186	836	February		
	March	6,987	5,854	4,662	1,192	882	March		
	April	7,236	6,053	4,953	1,100	962	April		
	May	7,245	6,007	4,957	1,050	896	May		
	June	7,364	6,060	5,046	1,014	898	June		
	July	7,527	6,182	5,221	951	885	July		
	Valuation of Schedules	August		6,781	5,903	878	905		August
September			7,022	6,249	773	921	September		
October			7,352	6,642	710	1,019	October		
November			7,520	6,870	650	1,002	November		
December			7,553	6,981	572	946	December		
1944 - 1st Quarter			7,446	6,837	608	906	1st Quarter - 1944		
2nd Quarter			7,502	6,953	548	856	2nd Quarter		
2nd Half			7,354	6,849	505	856	2nd Half		
1942 Actual Production			56,400	47,902	33,793	14,109	7,274	1942 Actual Production	
1943 Actual plus Schedule 1943 Required Production				77,123 78,312	65,803 66,992	11,320 11,320	11,005 10,384	1943 Actual plus Schedule 1943 Required Production	
1944 Schedule 1944 Required Production				88,968 88,867	82,468 82,367	6,500 6,500	10,841 10,887	1944 Schedule 1944 Required Production	
MONTH OR MONTHLY AV.		Combat Munitions (a)	Aircraft & Aircraft Munitions	Ground Army Munitions (b)	Naval Vessels, Ordnance & Equip. (Incl. Army Aux.)	Merchant Vessels & Maintenance	MONTH OR MONTHLY AV.		
Valuation of Actual Production	1942 - 1st Quarter	\$ 1,195	\$ 515	\$ 279	\$ 300	\$ 100	1st Quarter - 1942	Valuation of Actual Production	
	2nd Quarter	1,811	740	475	431	164	2nd Quarter		
	3rd Quarter	2,488	953	728	587	220	3rd Quarter		
	4th Quarter	3,113	1,174	950	738	251	4th Quarter		
	1943 - January	3,192	1,290	896	723	283	January - 1943		
	February	3,438	1,374	955	792	317	February		
	March	3,780	1,526	1,021	893	340	March		
	April	3,991	1,625	1,066	922	378	April		
	May	4,061	1,714	1,038	945	364	May		
	June	4,148	1,757	1,065	922	404	June		
	July	4,336	1,844	1,117	983	392	July		
	Valuation of Schedules	August	4,998	2,197	1,174	1,193	434		August
September		5,328	2,384	1,252	1,238	454	September		
October		5,623	2,561	1,343	1,244	475	October		
November		5,868	2,713	1,413	1,264	478	November		
December		6,035	2,844	1,425	1,300	466	December		
1944 - 1st Quarter		5,932	2,959	1,245	1,267	460	1st Quarter - 1944		
2nd Quarter		6,058	3,091	1,253	1,250	464	2nd Quarter		
2nd Half		5,993	3,206	1,111	1,154	522	2nd Half		
1942 Actual Production			25,815	10,148	7,296	6,169	2,206	1942 Actual Production	
1943 Actual plus Schedule 1943 Required Production			54,798 56,608	23,829 24,352	13,765 14,446	12,419 13,025	4,785 4,785	1943 Actual plus Schedule 1943 Required Production	
1944 Schedule 1944 Required Production			71,927 71,480	37,387 37,225	14,159 13,514	14,475 14,835	5,906 5,906	1944 Schedule 1944 Required Production	

Schedules and required production as of August 12 for Aircraft; as of July 1 for War Construction and selected aircraft items; as of August 1 for all others. (a) Aircraft and Aircraft Munitions; Naval Vessels, Ordnance and Equipment; Army Auxiliaries; Merchant Vessels and Maintenance. (b) Ground Army Ordnance, Signal, and Related Equipment.

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## - PRODUCTION PROGRESS

General Summary—Munitions, Construction, Miscellaneous



## PRODUCTION PROGRESS

General Summary (Value of production, in millions of dollars)

MONTH OR MONTHLY AV		Combat Planes	Aircraft Armament	Aircraft Ammunition	Artillery & Equipment	Artillery & Tank Cannon Ammunition	MONTH OR MONTHLY AV			
Valuation of Actual Production	1942 - 1st Quarter	\$ 180	\$ 19	\$ 34	\$ 21	\$ 48	1st Quarter - 1942	Valuation of Actual Production		
	2nd Quarter	233	29	36	31	81	2nd Quarter			
	3rd Quarter	294	30	62	55	102	3rd Quarter			
	4th Quarter	367	38	76	95	109	4th Quarter			
	1943 - January	361	38	88	105	95	January - 1943			
	February	442	38	80	123	87	February			
	March	513	41	76	120	107	March			
	April	575	42	91	126	95	April			
	May	647	41	88	113	104	May			
	June	670	42	90	101	118	June			
	July	709	43	92	101	103	July			
	Valuation of Schedules	August	887	43	120	116	102		August	Valuation of Schedules
September		966	43	147	121	118	September			
October		1,055	44	158	133	152	October			
November		1,125	44	167	139	186	November			
December		1,188	42	176	135	241	December			
1944 - 1st Quarter		1,219	45	130	82	203	1st Quarter - 1944			
2nd Quarter		1,296	47	122	79	214	2nd Quarter			
2nd Half		1,406	47	104	63	214	2nd Half			
1942 Actual Production		3,221	349	653	603	1,020	1942 Actual Production			
1943 Actual plus Schedule 1943 Required Production		9,138 9,138	500 516	1,376 1,538	1,433 1,387	1,508 1,632	1943 Actual plus Schedule 1943 Required Production			
1944 Schedule 1944 Required Production		15,290 15,990	555 616	1,378 1,080	859 1,021	2,537 2,680	1944 Schedule 1944 Required Production			

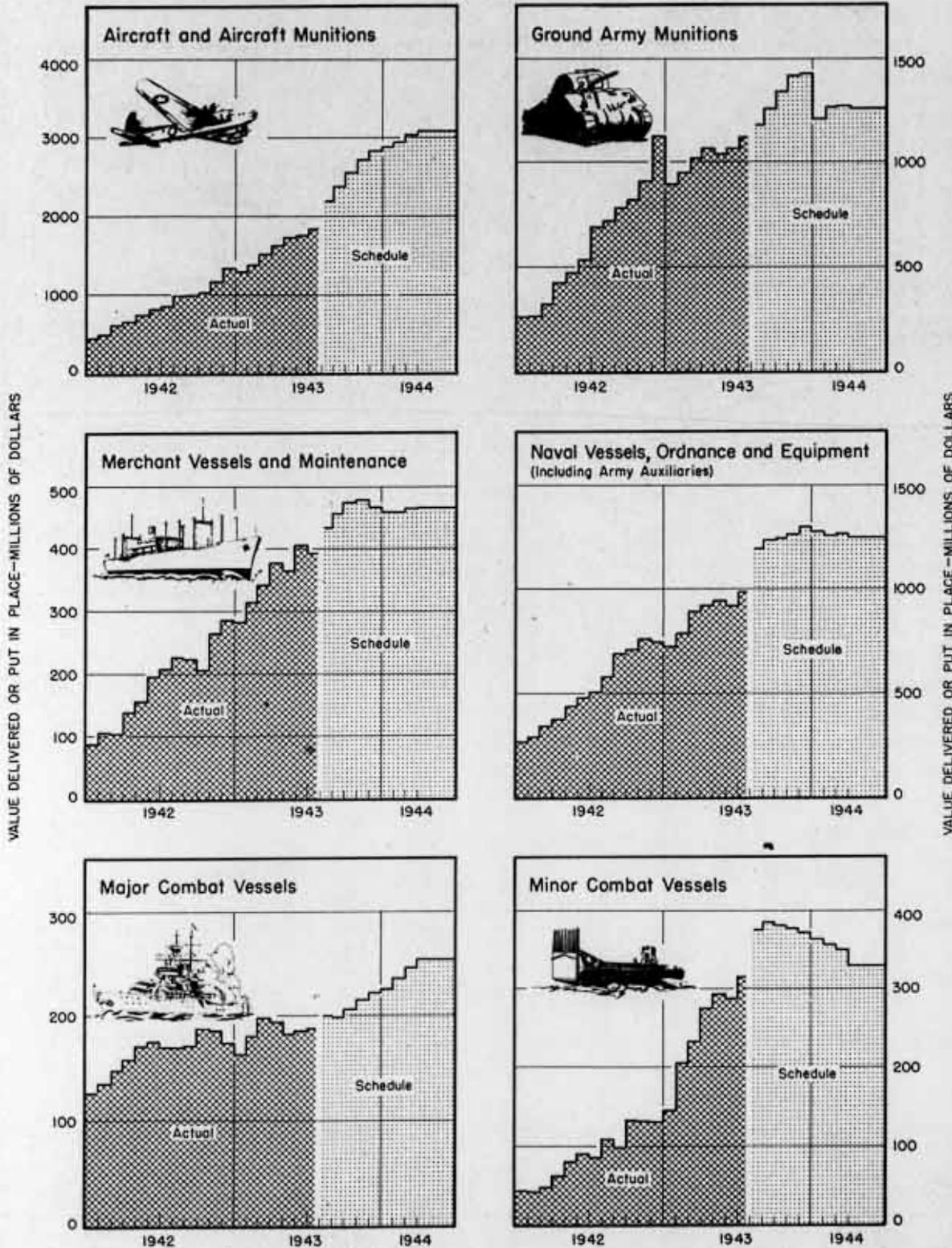
MONTH OR MONTHLY AV		Antiaircraft Guns & Equip.	Antiaircraft Ammunition	Small Arms & Infantry Weapons	Small Arms & Infantry Weapon Ammunition	Combat Vehicles	MONTH OR MONTHLY AV			
Valuation of Actual Production	1942 - 1st Quarter	\$ 19	\$ 12	\$ 17	\$ 42	\$ 105	1st Quarter - 1942	Valuation of Actual Production		
	2nd Quarter	42	22	30	81	147	2nd Quarter			
	3rd Quarter	79	32	39	121	209	3rd Quarter			
	4th Quarter	101	18	51	146	288	4th Quarter			
	1943 - January	119	21	56	175	206	January - 1943			
	February	119	16	56	171	251	February			
	March	124	20	60	192	222	March			
	April	131	25	58	206	293	April			
	May	114	20	57	220	285	May			
	June	124	18	65	232	290	June			
	July	112	16	64	251	317	July			
	Valuation of Schedules	August	114	24	62	236	325		August	Valuation of Schedules
September		144	34	79	248	306	September			
October		137	47	88	264	304	October			
November		135	58	94	275	302	November			
December		134	60	98	282	270	December			
1944 - 1st Quarter		137	46	75	294	237	1st Quarter - 1944			
2nd Quarter		123	57	62	302	245	2nd Quarter			
2nd Half		87	60	51	292	189	2nd Half			
1942 Actual Production		722	254	410	1,169	2,249	1942 Actual Production			
1943 Actual plus Schedule 1943 Required Production		1,507 1,491	359 430	843 833	2,752 2,892	3,431 3,490	1943 Actual plus Schedule 1943 Required Production			
1944 Schedule 1944 Required Production		1,301 1,031	670 571	714 727	3,540 3,594	2,581 1,922	1944 Schedule 1944 Required Production			

Schedules and required production as of August 12 for Aircraft; as of August 1 for ASP items, except for selected aircraft items which are as of July 1. Schedules are used for required production in the case of combat planes.

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# PRODUCTION PROGRESS

Selected Items—Aircraft, Ground Army, Ships



Note: Monthly average of quarter used in 2nd Quarter 1944.

WAR PROGRESS

## PRODUCTION PROGRESS

General Summary (Value of production, in millions of dollars)

MONTH OR MONTHLY AV		Battleships, Cruisers & Carriers	Destroyers	Submarines	Antisubmarine Vessels	Transports (Navy & Maritime)	MONTH OR MONTHLY AV			
Valuation of Actual Production	1942 - 1st Quarter	\$ 60	\$ 59	\$ 17	\$ 43	\$ 1	1st Quarter - 1942	Valuation of Actual Production		
	2nd Quarter	73	75	20	83	6	2nd Quarter			
	3rd Quarter	71	77	23	96	10	3rd Quarter			
	4th Quarter	79	81	23	128	13	4th Quarter			
	1943 - January	68	70	25	144	11	January - 1943			
	February	76	76	29	208	18	February			
	March	96	73	29	229	12	March			
	April	85	83	27	273	15	April			
	May	78	72	33	291	13	May			
	June	78	77	31	285	12	June			
	July	77	80	32	314	15	July			
	Valuation of Schedules	August	86	79	35	372	20		August	Valuation of Schedules
September		80	82	36	382	21	September			
October		86	83	38	378	22	October			
November		91	85	39	373	23	November			
December		95	86	41	369	24	December			
1944 - 1st Quarter		101	90	46	353	24	1st Quarter - 1944			
2nd Quarter		109	94	50	326	31	2nd Quarter			
2nd Half		114	89	46	289	41	2nd Half			
1942 Actual Production		850	876	249	1,031	32	1942 Actual Production			
1943 Actual plus Schedule		996	947	395	3,615	206	1943 Actual plus Schedule			
1943 Required Production		996	947	395	3,615	206	1943 Required Production			
1944 Schedule		1,314	1,088	562	3,593	411	1944 Schedule			
1944 Required Production		1,314	1,088	562	3,593	411	1944 Required Production			

MONTH OR MONTHLY AV		Landing Vessels	Industrial Facilities	Aircraft Fields & Bases	Clothing & Personal Equip.	Automotive Vehicles & Equip.	MONTH OR MONTHLY AV			
Valuation of Actual Production	1942 - 1st Quarter	\$ 2	\$ 352	\$ 50	\$ 98	\$ 134	1st Quarter - 1942	Valuation of Actual Production		
	2nd Quarter	7	512	108	142	184	2nd Quarter			
	3rd Quarter	84	662	219	178	211	3rd Quarter			
	4th Quarter	141	639	169	205	193	4th Quarter			
	1943 - January	80	613	113	221	173	January - 1943			
	February	67	577	114	208	181	February			
	March	91	566	111	227	204	March			
	April	49	487	113	211	227	April			
	May	67	456	117	186	234	May			
	June	62	418	107	163	241	June			
	July	71	373	102	164	256	July			
	Valuation of Schedules	August	97	314	85	158	305		August	Valuation of Schedules
September		96	259	73	149	334	September			
October		105	226	67	212	358	October			
November		106	198	63	204	362	November			
December		107	163	55	209	337	December			
1944 - 1st Quarter		111	202	57	194	297	1st Quarter - 1944			
2nd Quarter		106	185	52	193	284	2nd Quarter			
2nd Half		128	165	50	209	254	2nd Half			
1942 Actual Production		702	6,492	1,640	1,864	2,168	1942 Actual Production			
1943 Actual plus Schedule		998	4,650	1,120	2,317	3,212	1943 Actual plus Schedule			
1943 Required Production		998	4,650	1,120	2,156	2,894	1943 Required Production			
1944 Schedule		1,421	2,150	625	2,411	3,269	1944 Schedule			
1944 Required Production		1,421	2,150	625	1,487	3,210	1944 Required Production			

Schedules and required production as of July 1 for War Construction; as of August 1 for all others. Estimates for Aircraft Fields and Bases exclude overseas military construction. Schedules are used for required production in all cases except Clothing and Personal Equipment and Automotive Vehicles and Equipment.