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LESS MAINTENANCE, LONGER RUNS
INCREASE OPERATIONAL PERIODS OF LOCOMOTIVES

Locomotive Men Attempt Completion of Five-Year Plan in Four Years

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V. I. Yushko, a locomotive engineer of the Bogotol roundhouse on the Krasnoyarsk Railroad System, initiated the competition among locomotive men for fulfillment of the Five-Year Plan in 4 years. He completed 120,000 kilometers of his 1947 quota by 12 October and by 1 January 1948 was 26,268 kilometers ahead on his 1948 obligation. A Tula roundhouse locomotive engineer on the Moscow-Kursk Railroad System completed 2 years' distance, 168,000 locomotive kilometers by 23 July 1947. A Zilovo roundhouse engineer on the Transbaykal Railroad System ran his locomotive 265,000 kilometers in 22 months.

There has been good response among engineers on the Omsk, Leningrad, Estonian, North Donetz, Transcaucasian, Orenburg, Ashkhabad and Western railroad systems. Dissemination of Yushko's ideas has been unsatisfactory in a number of railroad okrugs and systems, among which are the Southeastern, Brest-Litvsk, Kovel', Sverdlovsk, imeni V. V. Kiybyshev, Olessa, Tashkent, North Caucasus and the Moscow-Donbass railroad systems.

It has been shown that under normal operating conditions the effective operating time of the locomotive can be considerably increased. Yushko lengthened the effective operating time of his locomotive by increasing the run between overhauls from 90,000 to 100,000 kilometers. At this rate the number of overhauls in 2 years will drop from 16 to 6, increasing the operating time 35 days, where 3 1/2 days are allowed for an overhaul. By increasing his operating speed and reducing fueling time, he cut the turnover time of his locomotive by 3 hours, giving 31 days more operating time per year. Cutting down idle time in washing by 2 hours saved 8 days per year.

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Yushko found that the run between medium repairs could be increased to 300,000 kilometers. He and his followers have refused capital repairs due to them by virtue of their locomotive mileage. By cutting out one capital repair and two medium repairs during the Five-Year Plan, they are gaining 30 days additional operating time.

Hundreds of engineers have succeeded in lengthening the run between capital repairs. A locomotive from the Yaroslavl' roundhouse went more than a million kilometers without capital repair. One SU locomotive, No 205-91, from the Ulan-Ude roundhouse on the East Siberian System ran 1,300,000 kilometers without capital repair.

It is clear that every engineer should be able to accomplish a 1949 run of 90,000-100,000 kilometers. The number of locomotives operating on schedule must be raised 40 percent over the park now in use, and the idle time of locomotives on tracks of technical stations must be cut to 0.7 hours.

Overhauls

Increasing the length of run between overhauls is vital. The 40,000 kilometers quota for overhaul interval, established in 1941, should be revised for 1948-1949 to not less than 60,000 kilometers, corrected for road profile, weight of train, and climatic conditions.

Mileage competition results are not posted often enough. If quota fulfillments are only posted at the end of each month, the engineers lose sight of the urgency of total distance run, the most important index of locomotive operation. Results should be posted every day.

The use of hard insets on flange shoes and beading of tires with rolled iron should be widely introduced. Each of these measures will give an additional 18,000-20,000 kilometers operating distance.

Among the best overhaul shops in the 1947 socialist competition were those at Likhobory, Korosten', Topki, Tbilisi and Chita.

The Likhobory roundhouse overhauls locomotives in 3 to 3½ days. The heart of this repair shop is its machine forge (zagotovitel'nyy) shop, which steadily supplies combination brigades with repaired and tested sets of wheels with axle boxes and spring suspension, drawbars, valves, drive-shaft crank arms, tender trucks, injectors, pumps and pressure lubricators. The machine forge shop work now accounts for 70 to 75 percent of the time spent in locomotive overhaul. The rate of overhauls at Likhobory roundhouse is 6 to 7 locomotives per month per brigade.

At the Korosten' roundhouse one combination brigade is overhauling 11 locomotives per month.

Among the best washing brigades are those at the Zima roundhouse on the East Siberian Railroad System, the Barnaul roundhouse, and the Shchors roundhouse on the Belorussian Railroad System. The Shchors brigade is composed of 15 men, and has consistently surpassed its washing norm 150-175 percent.

V. V. Korotochenko, chief engineer of the Lyublino roundhouse, has worked out a schedule for handling basic parts and units of FD and E locomotives. He organized special work places for repair of pistons, valves and crossheads, and equipped them with pneumatic hoists. He mechanized hoisting in the drawbar section of the machine forge shop, set up crane jibs with pneumatic hoists in the axle-box section and worked out an arrangement for wheeling out and transporting wheel pairs from FD locomotives from the hoist shop (tsekh pod'yemki) across the turntable into the mechanical shop and back.

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Senior engineer of the technical bureau of the Yaroslavl roundhouse has installed a crane beam in the hoist shop, set up an unbroken series of presses, among which is one for spring plates, and set up a travelling hoist for stripping and hanging steam-air pumps. He has replaced compressor blasting with blasting by individual blowers, thus creating normal conditions for boiler-makers' work.

Locomotives are overhauled in 36 hours at the Vitebsk roundhouse. At the present time the rate of overhaul for one combination brigade is 4.2 locomotives per month, and the rate of washing 18.3 locomotives per month per brigade. The best brigades, however, are turning out 8-10 overhauls and 25-30 washings.

The monthly rate for one combination brigade by the end of 1949 should be as follows: overhaul, 5 series FD and SO, and 6 locomotives of other types; and washing, 20 FD and SOk, and 25 locomotives of other types.

Requisite conditions for the above rate of output are interchangeable basic parts, maximum mechanization of all repair operations, and use of experimental brigades in key roundhouses for testing new devices. Washing locomotives prior to repair should be practiced in all roundhouses, current stocks of wheel pairs should be replenished and tire forges should be installed at the larger repair shops.

Comrade Ganin, a lathe hand at the Likhobory roundhouse, fulfilled his quota for machining parts of automatic brakes 300-500 percent, using series machining, special devices and tools. He reduced machining of pump rings to one quarter the usual time by means of a device holding 50 rings at once. In all he has over 20 devices, of which 11 are for machining automatic brake parts. One lathe hand now does the automatic brake part machining formerly requiring three turners.

Chief engineers and production technical sections should see that such innovations are put into practice in their roundhouses.

Efficiency Brigades

In the 1947 drive to improve the locomotive park, 50 efficiency brigades were in action.

At Arkolinsk, the brigade's study of conditions cut overhaul time from 17.5 days at the beginning of 1947 to 4.4 days in September, 3.8 in November and 3.8 in December. The idle time in washing was cut from the original 34.2 hours to 17.7 hours in September, 17.7 hours in November and 15.4 hours in December.

At the Novosibirsk roundhouse the efficiency brigade introduced machining of FD locomotive cross-heads with one machine, highspeed setting of axle bearings, axle-box cotter and cover plates, and organized a technological process for repairing injectors.

Not all brigades worked well, however. At the Kuybyshev and Orenburg roundhouses the brigades performed badly and failed to fulfill their basic organizational and technical task.

In 1946, the remarkable repair methods for war-damaged locomotives at the Timoshenskaya roundhouse on the North Caucasus railroad system received wide dissemination. They were also applied to locomotives which had for a long time been waiting for factory repairs, and to the restoration and repair of equipment. The Timoshenskaya method was used to repair 667 locomotives in 1946 and 943 in 1947. All locomotives damaged in the war should be restored by the end of 1949.

Damaged locomotives should be distributed among railroad and locomotive repair plants. Each railroad should have a plan for restoration of locomotives during the current year. Depending on the number and type of the damaged locomotives, the railroads should make provision for the necessary parts beforehand and arrange to have work done elsewhere which they cannot do themselves.

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Fueling of Locomotives

The time consumed in fueling locomotives must be cut 15 percent during 1948 and 1949, bringing the time for handling one ton of coal by bucket crane to a system-wide average of 1.8 minutes in 1948 and 1.0 minutes in 1949. The monthly average amount of fuel handled per worker should be 320 tons in 1948 and 340 tons in 1949. Loading and unloading of fuel at storehouses should be 95 percent mechanized and clinker removal 80 percent mechanized.

Water Supply Management

The key men in management of water supply are the senior foremen at water supply points and engineers of pumping stations. Unproductive expense of water must be eliminated and leakage of more than 3 percent of water delivered will not be tolerated. Running repairs of water supply equipment should be done by the attending staff. A saving of fuel in pumping stations of not less than 5 percent must be accomplished by the broad-scale introduction of thermo-technical measures and maintenance of equipment in good working order. Centrifugal pumps should be operated 25,000-27,000 hours between capital repairs with careful observance of periodic inspections and preventive repair.

Electric Power Management

The key men in the electric power management are the engineers, mechanics and foremen of electric power stations. During 1948-1949 they must see that fuel consumption in Diesel electric power stations does not exceed 0.41 kilogram per kilowatt-hour in stations of more than 500 kilowatt output, and 1.3 kilogram per kilowatt-hour in locomobile power stations. These standards have been established on the basis of performance by power stations at Bogotol, Ishik, L'gov (sic) and Archeda. The number of hours of utilization at rated capacity should be not less than 2,800 hours per year for Diesel electric power stations of 500 kilowatt output, and 4,000 hours per year for locomobile electric power stations, according to the practice of electric power stations at Barabinsk, Khabarovsk II and Buzuluk.

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