

Matter of Fact

Soviet Jet Engine

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THE PENTAGON intelligence analysts have reluctantly concluded that the Soviet Union is already producing a jet engine about twice as powerful as any yet produced in the United States.

This is the biggest shock, the bitterest pill, in a development that was generally shocking and unexpected. Until a few months ago, the official forecasters were convinced that the Soviet aircraft industry would need at least two years more to turn out planes already in the B-47 and B-52. But now such planes are already in the air, as reported in this space, in the form of the Soviet TU-37 and TU-39.

To find the Soviet strategic air development two years ahead of schedule was unpleasant enough in itself. It was even more unpalatable to find that this remarkable Soviet jump forward depended upon, and in fact probably resulted from, the successful design of a jet engine greatly surpassing any jet engine as yet designed in the West. At first, therefore, the whole development was dismissed as fraudulent and imaginary.

There were pretty good reasons, at first, to think that the Soviet display of new strategic air power was nothing but another proof of the Russian talent for building Potemkin villages. Potemkin had a strong interest in convincing the Empress Catherine that her realm was prosperous, and he built his cardboard villages to prove it. So the Kremlin today has a strong interest in convincing the West of the power of the Soviet strategic air army.

The circumstances in which the first of the new planes was seen were also decidedly suspicious. As though inviting inspection, a TU-37, which is the equivalent of our B-52,

not only flew low over Moscow, but also virtually circled above the American Embassy.

The new aircraft was slightly larger than its American equivalent. Where the B-52 needs the thrust of eight of the largest American jet engines to do its job, the TU-37 showed only four-engine nacelles.

TO BE SURE, the air intakes of the TU-37 engines were startlingly huge. But the American analysts calculated that a four-engined bomber of this size would normally require engines with the unprecedented thrust of 18,000 to 20,000 pounds.

They calculated further that the TU-37 would look like the real thing with engines of 7500 pounds thrust, provided it carried no payload and fuel for only a couple of hours in the air. They remembered the apparent Soviet intention to impress. And so, initially, they wrote the whole thing off as fake.

Unfortunately, this comfortable conclusion did not stand up for very long. It had hardly been reached indeed, when more than 20 TU-39s were observed, under very different circumstances, flying in formation. There was no indication, this time, of a desire to impress. Whereas the TU-37 was flown publicly in the Moscow air show, the TU-39 has never been publicly flown to this day.

Furthermore, the TU-37 was a twin-engined jet bomber almost exactly comparable in size to our B-47, which has four engines. And in the TU-39 there were the same, startlingly big air intakes that had so puzzled the experts in the TU-37.

It was not possible to believe that the sighting of a large number of TU-39s, flying in formation in a way that indicated advance unit train-

ing, was just another Potemkin village. On the other hand, if you assumed the existence of a new engine powerful enough to need the oversized air intake, the whole pattern made sense.

FOR ALL THESE REASONS, in the language of a very high authority, "we have got to assume that there is nothing fake about the two new Soviet planes; and we have got to assume further that Soviet jet engine design has overtaken American jet engine design, at least in the cardinal point of thrust, which means power."

This kind of unpleasant shock has been repeatedly felt at the Pentagon from the first Soviet atomic bomb tests onward. For example, these reporters can well remember the late Gen. Hoyt Vandenberg arguing that the first MIG-15 was not an important phenomenon, but was a specially built plane mainly intended to impress the West.

At that time, the official analysts had told Gen. Vandenberg the Russians could never produce MIGs in quantity, because we ourselves were then having such difficulty in quantity producing jet engines for our own fighters. But according to the now-accepted official estimate, the Soviets have finally produced no less than 13,000 MIG-15s before shutting off the line.

One can see why Donald Quarles, the Assistant Secretary of Defense for Research Development, recently warned that the Soviets were challenging the American lead in weapons development. But one cannot see why Secretary of Defense Charles E. Wilson came very close to complacently contradicting his own subordinate the very next day.