

Note:
Requested that Fred
Martin discuss use of
injection molded parts
with Jim Bower
TC

cc: J.P. Linde
C.B. Workman
L.B. Bosquet
F.E. Martin
Z.J. Kowalski

Est. #4487

April 12, 1983

F-12

G.D. Campbell

Replacement Rear Sight Assembly

Economic evaluation of the proposed replacement rear sight assembly indicates it will result in a substantial cost increase. Two alternative processes were evaluated:

Proposal I - Utilizing available standard equipment.

Proposal II - Utilizing new special machines to combine operations;

And the estimated unit and total cost effects of each proposal are tabulated below:

	<u>Current</u>	<u>Proposal I</u>		<u>Proposal II</u>	
		<u>Total</u>	<u>Net Change</u>	<u>Total</u>	<u>Net Change</u>
<u>Unit Factory Costs</u>					
Incremental	\$ 2.98	\$ 5.38	\$ 2.40	\$ 4.78	\$ 1.80
Full Allocation	\$ 4.73	\$ 7.93	\$ 3.20	\$ 6.81	\$ 2.08
<u>Total Factory Costs (M\$'s)</u>					
Incremental	\$ 655	\$1,185	\$ 530	\$1,050	\$ 395
Full Allocation	\$1,040	\$1,745	\$ 705	\$1,500	\$ 460
<u>Investment (M\$'s)</u>	--	\$ 100		\$ 310	

These costs are expressed in current dollars and are based on a 1983 forecast volume of 220M units.

The significant factors contributing to the increased cost for the proposed design included high purchased part costs and increased assembly cost. The most expensive purchased part was the Elevation Screw which had an estimated cost of \$1.55 each. Also, the Windage Screw cost approximately 10¢ each and the two springs added 18¢ in material cost. The total material cost for the proposed design was \$2.58 per assembly compared to \$.65 for the current rear sight assembly.

(cont'd.)

Replacement Rear Sight Assembly - (cont'd.)

Assembly costs for the proposed rear sight were higher because of increased complexity (11 components vs. 7 components in the current design) and the intrinsic difficulties in handling small components such as the detent ball. Also, assembly of the windage screw requires approximately 18 full turns.

Comparing Proposals I and II indicated the \$210M additional investment required for Proposal II would generate a gross incremental savings of \$135M compared to Proposal I. As this results in a 39% net return on the additional investment, the new special machines in Proposal II would be justified on a comparative cost reduction basis.

Industrial Engineering Section
R.W. Farrington, Jr., Supervisor

R.W. Farrington Jr.

TRAndrews/kc JPL