



STANDARD OPERATING PROCEDURE

Forging Machine Setting & Operating

1.0 PURPOSE

Setting & operating of forging machine

2.0 SCOPE

Applicable for all parts having forging operation

3.0 PROCESS

Sr. No.	Activities	Ref. Doc. / Record	Responsibility
A	<p>Removing: Stop the machine. Clean the machine; remove the existing setting parts from the machine. Open up the transfer assembly. Remove used transfer finger. Remove feed rolls. Remove quill & cutter. Remove 1st, 2nd, 3rd & 4th station dies by loosening the bolts in each station. Remove 1st, 2nd, 3rd & 4th station punch by loosening the bolts in each station. Ensure the chamfer availability in material collecting tank before taking for new part forging.</p>	--	Operator
B	<p>Wire Loading : Check the wire diameter. Check the raw material coil grade. Cut the starting one round of raw material coil (wire) before loading on coiler of machine & scrap it.</p>	AEL Forging Drawing	Operator
C	<p>Assembling : Set the transfer finger. Assemble the feed roll. Assemble the quill & cutter. Clean die blocks & punch blocks. Assemble 1st, 2nd, 3rd & 4th station dies & tighten the bolts in each station. Assemble 1st, 2nd, 3rd & 4th station punch & tighten the bolts in each station. Ensure the availability of partition in between 3rd & 4th station.</p>	--	Operator
D	<p>Process parameters verification & update in JH</p>	JH Sheet	Operator

Distribution : MR, MFG (Forging)

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E	<p>1. Air pressure to be check as per requirement. 2. Oil pressure to be check as per requirement 3. Machine speed to set as per part requirement.</p> <p>Sample Development : Set cut off length by adjusting material stopper. Set the transfer finger opening & closing cam timing. Set 1st station length in die side. Set 1st station in punch side. Set the transfer finger opening & closing cam timing. Set 2nd station length in die side. Set 2nd station in punch side. Set the transfer finger opening & closing cam timing. Set 3rd station length in die side. Set 3rd station in punch side. Set the transfer finger opening & closing cam timing. Set 4th station length in die side. Set 4th station in punch side. Clean short feed sensor , for any abnormality inform to supervisor Ensure that red bin is available for setting piece collection.</p>	AEL Forging Drawing	Operator / Inspector
F	Setting for concentricity /position of head with respect to bolt shank/TRD- by Tightening or loosening of punch position setting bolts.	--	Operator
G	Tighten the all dies & punches locking bolts before start machine.	--	Operator
H	First Sample Approval: Get the first sample approval from quality inspector.	Setup Approval Slip	Operator
I	Ensure that the bins taken is of same locations.	--	Operator
J	Ensure that small bin is available below output conveyer.	--	Operator
K	Ensure the availability of partition at 3 rd station & teflon sheet at output.	--	Operator
L	Start the machine for production.	--	Operator
M	Check the parts. Check the products visually for damage, surface defects, marks, sharp	--	Operator

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N	Edges, etc. Remove the tool after over the tool life or breakage & reset the machine. & get the first piece approval again.	--	Operator
O	Move the accepted material to respective area putting accepted material Movement card.	--	Operator
P	Before loading of new RM coil on coiler, scrap the end piece of previous raw material coil (wire).	Route Card	Operator
Q	For any minor corrections in the machine, reverify the parts produced 100% visually for OK condition.	--	Operator
R	Catch Pan to be used and parts to be checked before moving parts from catch pan to bin.	--	Operator
S	Check the product characteristics every 04 hourly as per defined frequency in control plan.	In-process Inspection Report	Inspector
T	Ensure the catch pan availability before start production & material handling bin to be cleaned for any unfinished parts before using the bin for output stage.	--	Operator

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4.0 RECORDS

Sr. No.	Format No.	Description
1	32/F/18	Production Log Book (Forging Operation)
2	12/F/01	Raw Material Tag
3	11/F/20	Setup Approval Slip
4	32/F/03	In process Inspection Report
5	33/F/02	Route Card

5.0 DOCUMENT REFERENCES

Sr. No.	Reference No.	Description
1	72/F/05	Tool Schedule

6.0 REVISION HISTORY

Rev. No.	Revision Date	Description of revisions
01	01.06.14	Process revised as per current practise.
02	28.02.18	Sr. No. "N" Added
03	29.09.18	Sr. No. "A" Modified
04	23.10.18	Sr. No. "B" & "N" Modified
05	27.08.19	Sr. No. "C" Modified
06	25.08.20	Sr. No. "J" Added
07	30.10.20	Sr. No. "K" Added
08	19.02.22	Sr. No. "R" Added
09	16.07.22	Sr. No. "S" Added
10	03.08.2024	Sr. No. "T" Added

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