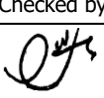
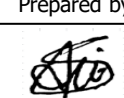


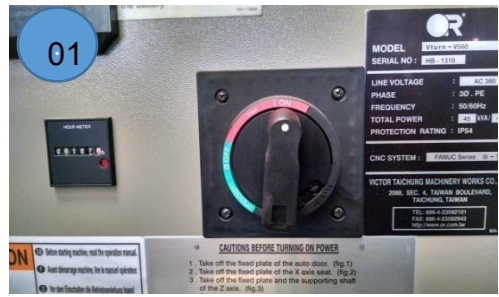
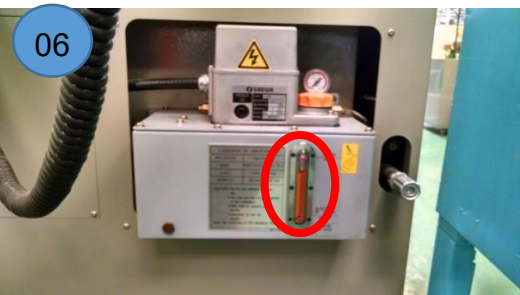
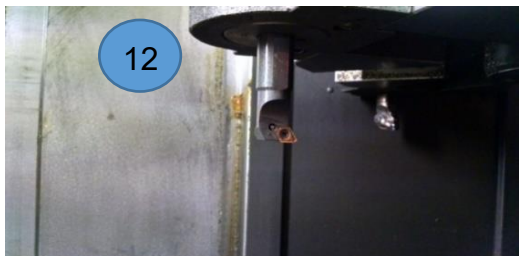
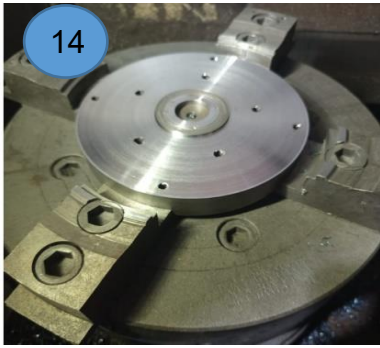
Manufacturing Operation Standard

Model	3AM	Process / Operation Name	HONING
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Preparing Department		
Confirmed by	Checked by	Prepared by
		

Control No.
PP\FM\025 ISSUE 01 PAGE 14 of 17

Job Setting

PICTORIAL VIEW	No.	OPERATION	QUALITY STANDARD	WORKING POINT	TOOL & MATERIAL	COMMENTS	SAFETY POINTS
 	1	Main breaker ON & machine power on.	-	1- Rotate selector Red mark to Green mark. 2- Press Switch ON Button.	Selector & Button	If operator doesn't press button or move selector to its position then machine will no start.	Shoes, Gloves
 	2	Machine Reference	Before starting machine make sure your axis in reference point.	Press Both X & Z axis button	X & Z Axis button & Selector	If operator starts machine without sending reference point then it can cause accidents of machine.	Shoes, Gloves
 	3	Checking of Oil levels.	Check level gauge every day before starting machine.	Check oil level on level gauge.	Level Gauge.	If level gauge is below than its standard level then machine will be alarming & it can effect on your production.	Shoes, Gloves
 	4	Set Clamping Pressure.	Chuck Clamping pressure should be 15~20 Kg/cm2 Tail Stock clamping pressure should be 08~10 Kg/cm2	Clamping Jaws.	Pressure gauge	Always set Chuck Clamping pressure should be 15~20 Kg/cm2 Tail Stock clamping pressure should be 08~10 Kg/cm2 clamping on can cause rejection & accident on machine.	Shoes, Gloves
	5	Greasing	-	Grease with the help of greasing Gun	Greasing Gun	-	Shoes, Gloves
 	6	Checking of Tools & Inserts	Make sure all tools mount on Turret & don't damaged.	Mount all tools in turret with respect to Facing & Honing with machining.	Tools ,Roller & Inserts.	-	Shoes, Gloves
 	7	Clamp the mandrel	Make sure jaws & mandrel should be free from Bur.	Before clamping jaws on mandrel Clean jaws & mandrel with the help of Air Gun then place the mandrel in jaws pressing the pedal. And Tight With L-NKEY Bolt	Mandrel & L-N KEY Bolt	If bur found on Jaws then mandrel is not properly clamp.	Shoes, Gloves
 	8	Dialing	1- Dialing should be with in 0.005 mm. 2- Before dialing make sure lever stand should be on clean surface & dial gauge nib touch inside mandrel profile.	Dialing with the help of lever gauge	Lever Gauge	1- If dialing is above then 0.005mm then make cut on it.	Shoes, Gloves
	9	Call program	Before start machining make sure program # & Name ' Drum Honing' call on screen	Type program # & press Program search Button on screen.	Button	If operator call wrong program # then it can cause accidents in machine	Shoes, Gloves
	10	Mode Setting	Make sure mode set on X1 & Single block and optional block ON	set selector position on X1 & optional block & Single block ON then On cycle start button when tool is near to part then press free hold button to hold process & then press reset button & after pressing reset button manually touch tool with part with the help of Handle then go to offset & select geometry option, in geometry option select whose tool which is working in process then give '0' offset value in X & Z axis.	Selector & Button	If this process will not proper follow then it can cause accident in machine. If you press dry run button, So Machine running rapidly its Cause of Part NG after process	Shoes, Gloves
 	11	Drum Clamp on Mandril & Check appearance of Drum	Make sure mandrel should be free from Bur & also Drum & should be free from Bur.	(1) Before clamping & Drum on mandrel . clean a mandrel with the help of Air gun then place with Drum & tight spacer & Nut with the help of spanner.	Air Gun Spanner Button L-NKEY BOLT	If bur found on mandrel & then /Drum will not properly clamp & Run out found on Drum.	Shoes, Gloves
 	12	N1 Boring Bar	After completing N1 process Inspect the part & check the Diameter difference 0.1 ~0.15 PP\FM\024 ISSUE 01 PAGE 14of15	Cycle start baton Press & Inspect the part with the help of Bore Gauge	Instrument (Bore Gauge)	If sizes don't according to tolerance then repeat process & give offset value & check again .	Shoes, Gloves
 	13	N2 Honing.	After completing N2 process Inspect the part & check the Diameter difference 0.02 PP\FM\024 ISSUE 01 PAGE 14of15	Cycle start baton Press & Inspect the part with the help of Bore gauge	Instrument (Bore Gauge)	If sizes don't according to tolerance then repeat process & give offset value & check again .	Shoes, Gloves

Job Setting								
		14	Dressing Of Grinding Wheel	Dress the grinding wheel after processing every 20 drums. After dressing, measure the surface roughness of the first drum to ensure it meets OPS standards. Subsequently, check the surface roughness on every 20th drum. Refer to document OP for detailed standards and procedures. PP\FM\024 ISSUE 01 PAGE 14of15	1-Dressing Tool Setup Mount the dressing tool securely on the jaws. 2-Cut into the grinding wheel until the desired surface roughness is achieved. 3-Dress the grinding wheel after processing every 20 drums. 4-After dressing, measure the surface roughness of the first drum. 5-Ensure the measured roughness complies with OPS standard requirements. 6-Continue to monitor quality by checking the roughness of every 20th drum thereafter. Note: If the roughness of the 20th drum is not within the standard, then the roughness of each drum produced in that batch must be checked individually until an OK Roughness piece is found. & Checking Sequence Example (20,19,18)	Tool & Grinding Wheel	If sizes don't according to tolerance then repeat process & give offset value & check again .	Shoes, Gloves
		15	Inspection & Unclamp the Drum	Before unclamping the Drum make sure all work done on Drum and Check 200m Dimension. PP\FM\024 ISSUE 01 PAGE 14of15	check Dimension 200mm Before Un clamping Part	-	Note: Without gloves don't touch a Drum	Shoes, Gloves
		16	QC inspection	Before starting production go to QC window and check 1st part & receive OK slip .	Go to QC Window	QC Slip	If part is NG then go and come until QC didn't give you OK slip. Note: Without gloves don't touch a Drum	Shoes, Gloves
		17	Storage & Handling Of Finish Part	Finish Drum Properly set in Storage Location	Place the Drum properly in the Drum Racks, so it doesn't hit or collide with Other Drum.	Finish Drum , Storage Racks	If Drum needs to repair then place into Repairing rack if reject then place into Rejection rack. And follow the OK ,Rej. & REPAIRING Treatment Flow as Mention Below	Shoes, Gloves

Day First Part Manufacturing	
* For first part manufacturing Operator must follow these process: 1,2,3,4,5,6,9,10,11,12,13,14,15,16,17 & Among these, Process No. 14 is critical and must be consistently and repeatedly followed by the operator throughout production to ensure in-process quality control.	

Routine Part Manufacturing	
* For Routine part manufacturing Operator must follow these process: 11,12,13,14,15 & 16.& Among these, Process No. 14 is critical and must be consistently and repeatedly followed by the operator throughout production to ensure in-process quality control.	

OK ,Rej. & REPAIRING PART RULES & ROUTE

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graph TD; START([START]) --> OP{Operator & Line Inspector}; OP -- "If OK after rep. than must be verified by Supervisor" --> OKR[OK, Repairable & Rejection]; OP -- "If OK after rep. than must be verified by Supervisor" --> ORO[Orange BIN/TROLLEY  
Yellow identification Mark  
(inform to supervisor)]; ORO -.-> OP; OKR -- "Rej." --> RB[RED BIN/TROLLEY  
Red identification Mark  
(Responsible supervisor)]; RB -- "Daily Before DAY End" --> AS[If Assy, than dismantling of Assy by Supervisor]; AS -- "NG Part" --> PRS[Prepared Rejection Slip (QC/FM/008)]; PRS -- "Move rejection from Department" --> VRA[VENDOR Rejection Area]; PRS -- "Move rejection from Department" --> LRA[LINE Rejection Area]; AS -- "OK Parts" -.-> SA[Storage area]; AS -- "OK Parts" --> MNO[Move Next Operation]; OKR -- "Rep." --> CPD[CPK DATA SHEET  
PD/FM/006  
If Rep than data must be Re-enter after Rep.]; CPD --> ORO;
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The flowchart illustrates the process for handling parts that are either OK, rejected, or need repair. It begins with a START node leading to a decision point for the Operator & Line Inspector. If the part is OK after repair, it must be verified by a supervisor. This leads to a box for OK, Repairable & Rejection. From here, the process branches into two paths: Rejection (Rej.) and Repair (Rep.). The Rejection path involves marking the part with a Red identification Mark (RED BIN/TROLLEY) and dismantling it by the supervisor daily before the day ends. If the part is a Non-Good (NG) Part, a Rejection Slip (QC/FM/008) is prepared, and the rejection is moved to either the Vendor Rejection Area or the Line Rejection Area. If the part is OK after dismantling, it is stored in the Storage area. The Repair path involves entering data on a CPK DATA SHEET (PD/FM/006) and marking the part with a Yellow identification Mark (Orange BIN/TROLLEY) to inform the supervisor. The supervisor then verifies the part, and if it is OK, it moves to the next operation.

[illegible][illegible][illegible]

Job Setting																			