



SCALE 2 : 1

ATERIAL SAE 12L14: STOCK $\phi 2'' \times 1\text{-}3/4''$
 ALL UNDIMENSIONED CHAMFERS $.015'' \times 45^\circ$
 YOUR PROCESS SHEET
 E INSPECTION SHEET

ORKS Educational Product. For Instructional Use Only.

MANUFACTURING PROCESS SHEET

Project: NUT PART Part# Dwg.#

MACHINING DEPARTMENT

QTY	THK / Ø	WIDTH	LENGTH	MATERIAL/ PART NAME
	Ø 2"		1.5"	AISI 12L14

Routines, Sub-Routines, Operations	Description and Remarks	Machines, Tools, Jigs, Fixtures, Attachments and Measuring Tools	RPM	Feed /rev.	Time	Sketch of the Workpiece, Mounting, Calculation etc. (If applicable)
10	HORIZONTAL BANDSAW	SAFETY GLASSES				(4-2/16 YOUR CENTER HEIGHT OF THE TOOL.)
A	SELECT AISI 12L14 Ø 2 X 1.5' BAR	<u>(NUT PROJECT)</u>				
a	CUT Ø 2 X 1.1"	STEEL RULE				
b	DEBURR ALL SHARP EDGES	DEBURRING/FILE TOOL				
20	FACING/ CENTER DRILL					
A	PREPARE & SETUP ACCESSORIES	HSS TOOLS, CENTER DRILL				
a	MOUNT 3 JAW	WOOD CHUCK				
b	SETUP WORKPIECE, 1" STICK-OUT	WORKPIECE				
c	FACE TO CLEAN	CARBIDE TURNING TOOL	360	.005 &.00 3		
d	CENTER DRILL 7/16 X 60 DEG	CENTER DRILL #5	914			
30	DRILLING OP					
A	PREPARE DRILL Ø 7/8	DRILL KEY				

Routines, Sub-Routines, Operations	Description and Remarks	Machines, Tools, Jigs, Fixtures, Attachments and Measuring Tools	RPM	Feed /rev.	Time	Sketch of the Workpiece, Mounting, Calculation etc. (If applicable)
a	DRILL $\varnothing 7/8$ THRU	DRILL $\varnothing 7/8$	457			(BORING RPM = 50% OF TURNING +FEED)
40	CHAMFER HOLE					
A	PREPARE HSS CHAMFER FOR ID	YOUR 45 & 45 DEG HSS CHAMFER TOOL				
a	SET COMPOUND REST OR CUTTING EDGE OF THE TOOL TO 30DEG OR 45DEG	PROTRACTOR, ALLEN KEY SET, SELECT CUTTING TOOL				
b	CHAMFER 45 DEG ID \varnothing (REF $\varnothing 1.2048'$)	CARBIDE BORING 5/8'' TOOL	74			
50	CHAMFER OUTSIDE SIDE 1					
A	PREPARE HSS CHAMFER FOR OD	YOUR 45 & 45 DEG HSS CHAMFER TOOL				
a	OD \varnothing CHAMFER .063 X 45 DEG (REF $\varnothing 2'$)		74			
60	FLIP WORKPIECE					
A	PREPARE & SETUP ACCESSORIES					
70	BORING \varnothing ID OPERATION					
A	PREPARE BORING TOOL	CARBIDE BORING 5/8'' TOOL				
a	BORE TO SIZE ID $\varnothing 1.2048$	BORING 1/2 TOOL	149			

Routines, Sub-Routines, Operations	Description and Remarks	Machines, Tools, Jigs, Fixtures, Attachments and Measuring Tools	RPM	Feed /rev.	Time	Sketch of the Workpiece, Mounting, Calculation etc. (If applicable)
80	CHAMFERS ID & OD					
A	SET THE BORING TOOL 45 DEG	(METAL PROTRACTOR)				
a	CHAMFER 45 DEG ID \varnothing (REF $\varnothing 1.2048'$)	CARBIDE BORING BAR	74			
b	OD \varnothing CHAMFER .063 X 45 DEG (REF $\varnothing 2'$)		74			
90	THREADING OPERATION!!!					
A	PREPARE YOUR CALCULATION	(1 3/8 - 6 UNC -3B INT)				
a	COMPLETE THE THREAD CALCULATION FORM	USE THE SPECIFIED STANDARD DATA				
b						
B	PREPARE YOUR HSS THREADING TOOL	YOUR HSS 60 DEG TOOL				
a						
C	START THREADING INTERNAL 1' LONG					
a						

Routines, Sub-Routines, Operations	Description and Remarks	Machines, Tools, Jigs, Fixtures, Attachments and Measuring Tools	RPM	Feed /rev.	Time	Sketch of the Workpiece, Mounting, Calculation etc. (If applicable)

To Machine

Routines, Sub-Routines, Operations	Description and Remarks	Machines, Tools, Jigs, Fixtures, Attachments and Measuring Tools	RPM	Feed /rev.	Time	Sketch of the Workpiece, Mounting, Calculation etc. (If applicable)

To Machine

Routines, Sub-Routines, Operations	Description and Remarks	Machines, Tools, Jigs, Fixtures, Attachments and Measuring Tools	RPM	Feed /rev.	Time	Sketch of the Workpiece, Mounting, Calculation etc. (If applicable)

To Machine

Routines, Sub-Routines, Operations	Description and Remarks	Machines, Tools, Jigs, Fixtures, Attachments and Measuring Tools	RPM	Feed /rev.	Time	Sketch of the Workpiece, Mounting, Calculation etc. (If applicable)

Routines, Sub-Routines, Operations	Description and Remarks	Machines, Tools, Jigs, Fixtures, Attachments and Measuring Tools	RPM	Feed /rev.	Time	Sketch of the Workpiece, Mounting, Calculation etc. (If applicable)