

The ProShop logo is positioned at the top center of the image. It features the word "ProShop" in a bold, sans-serif font. The "P" is white, and the "roShop" is orange. The background of the top half of the image is a dark, industrial scene showing a drill bit in the process of drilling a hole into a metal workpiece, with blue and grey metal shavings scattered around.

ProShop

# PROSHOP LEAN

## SETUP PROCESS

A Step by Step **Walkthrough**

**Slash setup times by 50%**

[www.ProShopERP.com](http://www.ProShopERP.com)

# GOAL

When a machinist starts to setup a machine, they should never have to leave the machine before they have a good part. The setup should be as short as possible, and the first part off the machine should be good. Spindle down time between jobs is minimized.



# BREAK THINGS INTO 3 STEPS

## Step 1:

Programmers/Planners outline as much as possible, ensure all items are procured and available

## Step 2:

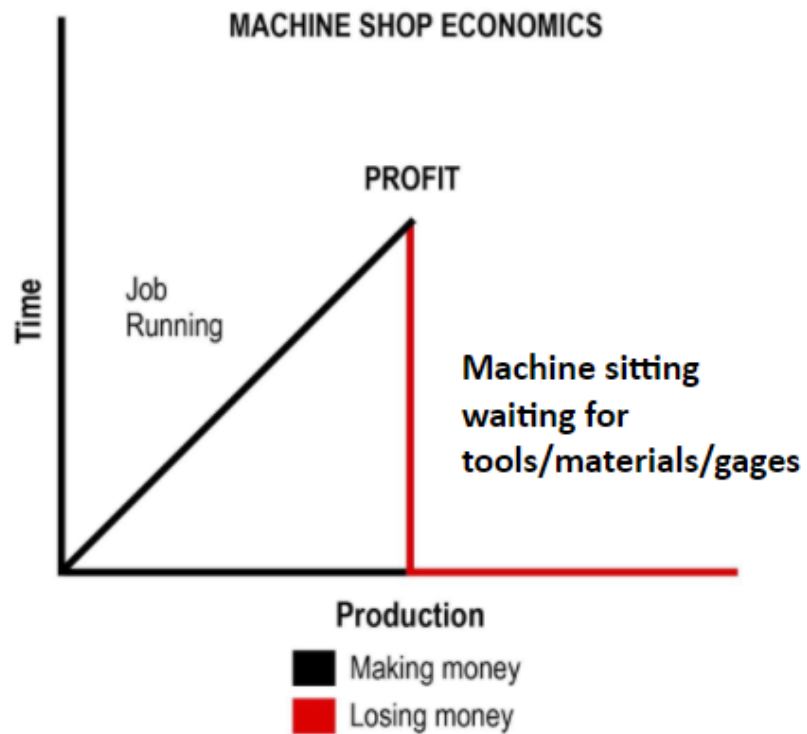
Offline prep of the job to get everything ready

## Step 3:

Actual machine setup, prove out



## WHAT ARE WE REALLY TRYING TO AVOID?



Having machines sit idle - not running parts or in active efficient setup.

# STEP 1

## **PROGRAMMERS/PLANNERS SHOULD DOCUMENT THE SETUP OF THE JOB IN DETAIL.**

### Part Module Operation Components

- Setup Information (photos, video, text, attachments)
- Tooling Information (specific cutters, holders, extension lengths, sequence descriptions)
- Workholding Information (fixture ID number, location in storage)
- Inspection Information (all FAI dimensions, tolerances, gages needed)
- G-Code is readily available

By providing these details in ProShop, and after following a detailed offline setup process in advance of the job going on the machine, it is possible to set up, run and inspect\* the first part without ever leaving the workcell.

\*Unless specialized inspection equipment is not available at the workcell, like CMMs.

# SETUP INFORMATION

## Part: 111-22-33 OP 50: Written Description

10 | 15 | 20 | 25 | 30 | 40 | 50 | 55 | 60 | 65 | 70 | 85 | 90 | 95 | 100 | 105 | 110 | R-120 | 23

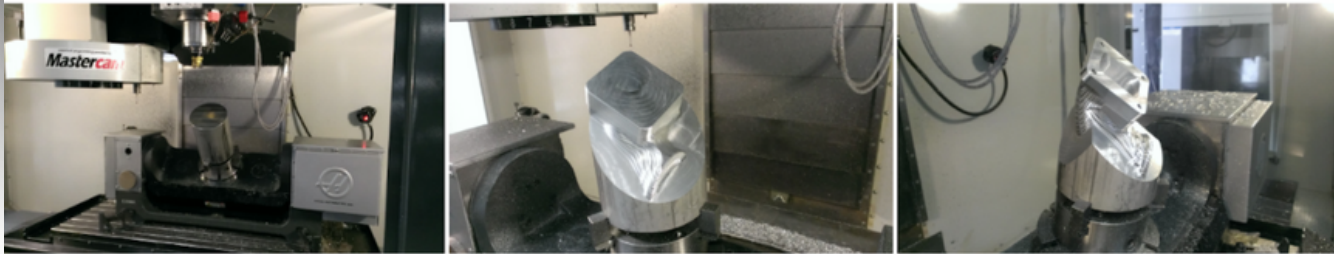
Set-up Overview | Sequence Detail | Run Description

### Written Description of OP #50

- **Torque wrench should be set to 24 lb/ft for three jaw chuck.**
- **Trunion centerline should be no more than 8.5" from machine zero coordinate in Y direction.**
- **Make sure part stock is no more than 12.4" from chuck face, otherwise it may hit the tool carousel.**

### CHECK COOLANT CONCENTRATION!

Setup Sheet.pdf



CHECKOUT

With ProShop you can quickly document set up notes and photos.

The built in editor allows you to easily highlight text, make bullet point lists, link related documents, and many other actions to make your notes easy to see and read.

Adding pictures or screenshots can be done on the same page with a simple click of a button.

You will be able to add and edit these notes and pictures from any device, whether you are at your programming computer or on the shop floor with a tablet.

# TOOLING INFORMATION

## Part: 111-22-33 OP 50: Sequence Detail

30 | 50 | 60 | 90 | 95 | R-120 | 23 G-Code | Sequence Detail Parse | Set-up Overview | Written Description | Run Description | All Details

Seq #	Sequence Description	RTA #	Tool #	Description	OOH	Holder	Tool Qty Usage	Length Control Dim	Diameter Control Dim
1	Face, Rough outside Profile, Clear Tabs	6	I90008/ G90006	3.000 I.E.M. 3Fit TOOL ST / DAPRA FACE INS .120 Rad CARB	Stub	Thru Spindle Stud Arbor	1 / per 200 parts		
2	Spot Face 4 locations, scribe		E90004	000 CENTER DRILL 2Fit HSS	> .25	bal ER16	1 per 100 parts		
3	Special Cut Port		M90013 (CG)	MS16142-2R (SAE J514) O-Ring Boss - Reamer ( for a 5/16-.24 )	> .3	ER32 - 6"	1 per 100 parts	16	
4	Chamfer and Edgebreak		L90012	.500 2Fit 90 Deg Chamfer Tool Carb	> .75	Solid	1 per 150 parts		
5	Rough Interior Cavity		C90003	0.250 TEM 3Fit HSS - 1.0 LOC	> 1.5	Solid	1 per 150 parts	12	11
6	Finish Interior Cavity		C90003	0.250 TEM 3Fit HSS - 1.0 LOC	> 1.25	Solid - 4"	1 per 75 parts		
7	Edgebreak Multiple Locations		L90012	.500 2Fit 90 Deg Chamfer Tool Carb	tol .050 1.25	Solid - 4"	1 per 40 parts		
8	Finish Profile		A90001	0.5000 FEM 2Fit CARB	tol .050 1.25	bal ER32 - 4"	1 per 5 parts	4	7

### Special Tooling Notes:

Stock is TALL - ensure tool-change clearance

CHECKOUT

Reconcile Work Orders and Part

## Bring your tool lists into ProShop!

Utilize the built in Tool library lookup functions to quickly add tools into your list and clearly define the necessary set up for the proper tool holders and extensions or any other special tooling notes.

Set usage rates to establish purchasing needs.

Document key inspection dimensions for each tool when required.

# WORKHOLDING INFORMATION

Part: 111-22-33 OP 50: Work Holding

25 | 30 | 50 | 60 | 90 | 95 | R-120 | 23

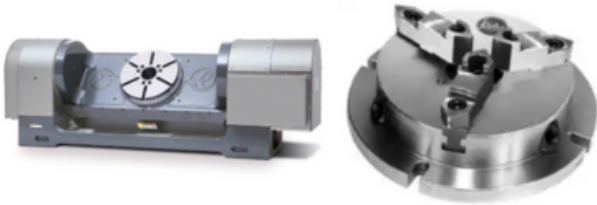
Set-up Overview | Sequence Detail

Work Holding Type: Custom Fixture

**Description:** Description: 5-axis table with 10" Chuck mounted vertically. Set trunnion no more than 8.5" from Centerline in Y.

Fixture #	Description	Ops Included	Rack #	Shelf #	# from Left	Date Cataloged
5	A310 Trunnion	50	1	3	2	9/10/2016
31	10" Surface Mount Chuck	50	2	4	1	10/31/2019

CHECKOUT



Reference the Fixture module to specify which fixtures are used for each operation.

You will be able to see the current storage location and catalogued date.

Add additional notes for the shop floor to make sure the fixtures are set up correctly.

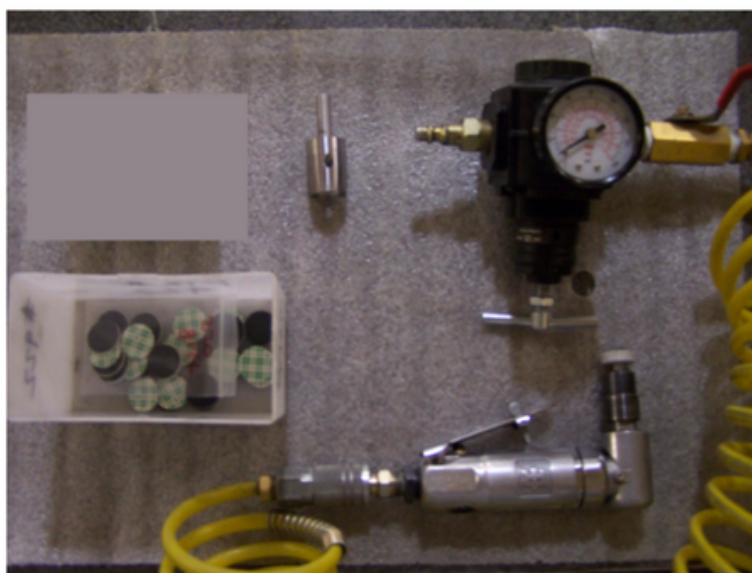
Include pictures to take out the guess work.



# SPECIAL TOOLS, KITS, HAND TOOLS

Fixture: 922

● Fixture #:	922
Description / Info:	Pneumatic Blending Tools
Rack #:	
Shelf #:	
● # From Left:	
Date Cataloged:	12/12/2005
● Should Be In Rack:	Recycle?
● Notes:	Pneumatic Blending Tools All tools in this box are to be used in the blending of surface mismatch on highly cosmetic painted parts. BOX WILL CONTAIN THE FOLLOWING: * Pneumatic 90deg. grinder * Blue air hose coil and regulator * .730" diameter sanding disc attachment * sanding-disc stamp-cutter for punch press * BOX MAY ALSO CONTAIN: * thick foam double-sided tape (3M) * 220-grit paper * 320-grit paper * plastic bin full of pre-cut discs YOU WILL NEED: * Green pneumatic punch press * Excellent lighting!



Fixturing Module is useful for organizing ANYTHING needed for jobs.

Utilize the Fixture module for keeping track of job kits as well as fixtures.

Make storage locations easy to find.

Include pictures of all items required for each kit or fixture.

ProShop will also keep track of the age of fixtures and automatically notify the proper person when it's time to archive or remove fixtures that haven't been used recently.

# INSPECTION INFORMATION

Part: 111-22-33 OP 50: Part Check Info

Internal Part #: PRES-111-22-33 Client: Premier Aerospace (AS) Op #: 50  
Part Name: Manifold Active Prog Man.: Ryan Mermall Operation Description: Milling - VP2, 5-axis  
Part Description: Turbo Elbow Manifold (VB) Active Programmer: Ryan Mermall Operation Type: Manufacturing

Standard Part Tolerance: in inches X ± .03 .XX ± .01 .XXX ± .005 .XXXX ± .0001 ANGLE ± .1°  
Inspection frequency: 25

Dim Tag #	Location	Char Dsg	Drawing Spec	Inspec Equip	Nom Dim	Tol ±	IP1?	Show Dim When?	IPC Picture
1	6D	Key	4.00	CAL069		.01	✓		<a href="#">Info.png</a>
2	4C		4.00	CAL943		.01			+ ADD PICTURE
3	5C		3.000	Caliper		.003	✓		+ ADD PICTURE
4	6C		3.000	Caliper + Pins		0.005			+ ADD PICTURE
5	6C	Safety	Thread 1/2-13 4x	GO / NO-GO			✓		+ ADD PICTURE
6	4D		Ø 1.75 REF			0.07		1st Check Only	+ ADD PICTURE
7	2D		Ø 3. REF					1st Check Only	+ ADD PICTURE
8	2C		.625			.01	✓		+ ADD PICTURE
9			Serial Number				✓		+ ADD PICTURE

CHECKOUT

Net Inspec XML Import:

ProShop has integrated inspection plans.  
Eliminate the guess work and reduce set up times.

Make sure the operators and inspection staff know exactly what to check.

You can create detailed plans and preset how dimensions relate to a specific order based on:

- Revision level
- First part run
- In process inspection
- Critical dimensions, etc.

Inspection plans can also be imported into ProShop utilizing our CSV reader.

## STEP 2

**STAFF ON THE SHOP FLOOR/TOOL CRIB WILL PREPARE THE JOB AND CONFIRM ALL REQUIRED ITEMS, IN ADVANCE OF SETUP STARTING.**

### Pre-Processing Checklist

- Confirm all documentation and customer flowdowns have been accounted for
- Finalize and check off manufacturing engineering/quality planning steps
- Finish CNC programming and all documentation
- Prep and kit job on the shop floor and queue in a staging area (ideally 24 hours in advance)

By performing this checklist, all offline setup steps will be complete and ready for in-machine setup to be as quick and efficient as possible.

# WORK ORDER PREP / OFFLINE SETUP CHECKLIST

## Work Order: 19-0017: Pre-processing Checklist

All items to be complete before setup begins

Sub-section	Who's Responsible	Question	Operation #							
			NA?	50	60	90	95	All		
Proshop:	Sales Manager	Requirement Distillation Process (RDP) Complete Task 020-080-012		Paul V	Paul V	Paul V	Paul V	Paul V	✓	
Proshop:	Customer Program Manager	Verify Rev		Paul V	Paul V	Paul V	Paul V	Paul V	✓	Op 50, 60, 90, 95
Proshop:	Customer Program Manager	Verify Customer Requirements (Customer PO, Sales Tie In, WO Notes, Part Notes, Customer Contact Page Requirements)							Paul V	Check
Proshop:	Estimator	Compare estimated times vs current plan ( >4 hr or 25% overages (whichever is less) have been documented in the pricing notes by sales )							Paul V	Check
Proshop:	Production Programmer	Review Process Development							Paul V	Check
Proshop:	Scheduler	Review Time Tracking ( Confirm target times are correct and flow percentage correct )							Paul V	Check
Proshop:	Planner	Review All OP operations check for 'Must be Back On Date', Lead Time, Vendor, Price.							Paul V	Check
Proshop:	Project Manager	Queue Tools for Ordering							Paul V	Check
Proshop:	Purchasing Manager	Order Material							Paul V	Check
Proshop:	Purchasing Manager	Order BOM Items							Paul V	Check
Proshop:	Production Programmer	Work Holding: Part zero, offsets and rotations described, fixture # and fixture creation		Paul V	Paul V	Paul V	Paul V	Paul V	✓	Op 50, 60, 90, 95
Inspection:	QA Inspector	Print Approval (All OP Prints w/ racking info on Print as required) (Prints Approved Prior to 1-1-08 must be RE-APPROVED)							Paul V	Check
Pro E:	Planner	Proper Model Rev (Matching the WO)							Paul V	
Programming:	Planner	Program Complete		Paul V	Paul V	Paul V	Paul V	Paul V	✓	
G-code:	Planner	Queued in Folder (Must be done every time by Planner. The set-up person needs it.)		Paul V	Paul V	Paul V	Paul V	Paul V	✓	
Cutting Tool:	Setup Machinist	Cutting Tools Prepared (OOH & Tool Holders Match Proshop, Loaded in Caddy, Touched Off, Pull Stud Check)		Paul V	Paul V					Op 50, 60, 90, 95
Quality:	Setup Machinist	Collect all inspection equipment (Confirm calibration will not expire during the job)		Paul V	Paul V					
Work Holding:	Shop Assistant	Retrieve all Workholding Components Required (Fixtures, Vises, Subplate Bolts, Parallels & Keepers, Hand Tools)		Paul V	Paul V					
Supplemental Items:	Shipping Coordinator	Pull and Queue Packaging		Paul V	Paul V					
Supplemental Items:	Shop Assistant	Review Set-up Overview for Additional Supplies (Sandpaper, Scotch-Brite, Etc.)		Paul V	Paul V					
Work Holding:	Shop Assistant	Tear Down								
Supplemental Items:	Shop Assistant	Tear Down								
Work Holding:	Shop Assistant	Final Clean up								
Supplemental Items:	Shop Assistant	Final Clean up								

CHECKOUT

**Keep track of job status for every step with fully configurable checklists:**

Create unique checklists for every kind of job that comes through the shop.

- First Run Production
- Repeat Production
- Prototype
- Etc.

Adds visual queues to job and schedules so you know at a glance if a project is ready for set up.

# TOOLS ORGANIZED IN INVENTORY

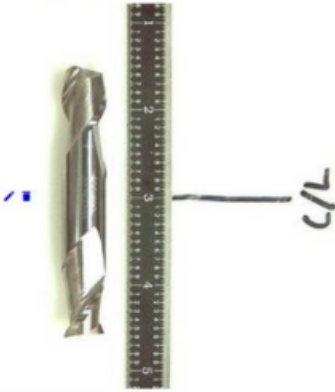
**Tool: A90001 (End Mill)**

Retire Tool / On Order Breakdown / Purchase History / Export To Mastercam / Accounting Codes

Tool #:	A90001
Tool Group:	A
Number:	90001
Inspection Certified:	<input type="checkbox"/>
Quantity Verified:	<input checked="" type="checkbox"/>
Status:	Active

**Description**

0.5000 FEM 2Flt CARB



+ ADD PICTURE

Part of RTAs					
RTA #	Tool #	Insert Tool #	Collet	Holder	OOH
2	A90001			Rougher Solid - 4"	tol.050 1.25
7	A90001			Rougher Solid - 4"	tol.050 1.25

Is Custom Ground?

**Resources**

[Cutting Parameters.pdf](#)

Purchasing				
Vendor	Approved Brand	Cost	Lead time	EDP#
Application Specialties Inc.	SGS	44.90	3	31539
MSC Supply	Accupro	56.15	3	07764095
MSC Supply	SGS	84.66	3	32158321

Default Average Cost:  
Calculated Inventory Value: \$1885.80

Notes:  
accupro is only mfg. w/40 degree helix

Qty in Bin:	29
Qty in Use:	13
Total in Shop:	42
Qty Needed:	46
Qty Available:	22
Qty On Order:	28

Least Amount to Order:	1
Safety Stock:	2
Suggested Maximum Quantity:	10

Full Tool module to keep track of all consumable tooling used in the shop.

Quickly reference any tool in the library for details and specifications of the tool from any device.

Log purchasing information that feeds directly to your procurement team.

Immediate information on tool inventory.

- Do we have tools in the bin?
- Is it already in a machine?
- Do we need to purchase more?

Easily add pictures and any other reference material with a simple button click.

# TOOL SETUP PAGE – PREPARING TO PULL FROM INVENTORY

YourCo + Modules + Work Orders + 19-0017 + Search this module Paul V +

**Work Order: 19-0017: Load Caddy**

Group By Op# | Group By Tool# | **Group By Flow** | **TOOL MASTER**

\* Special Tooling Notes

**Tool Pre-setter System**

Load into caddy:  Load Caddy Behavior:  Starting With Pocket #:

**GO** **RESET**

Lead?	Op #	Machine	RTA #	Tool #	Tool Descrip	Total In Shop	Seq Descrip	OOH	Holder	In Caddies
<input type="checkbox"/>	50	N58	6	190008 / 090009	3.000 I.E.M. 3FR TOOL ST / DAPRA FACE INS 120 Rad CARB	9 / 66	Face, Rough outside Profile, Clear Tabs	Stub	Thru Spindle Stud Arbor	BK26, N16, N22, N28, N32, N37, N62
<input type="checkbox"/>	50	N58		E90004	000 CENTER DRILL 2FR HSS	12	Spot Face 4 locations, scribe	> 25	bal ER16	BK26, M02, N22, N28, N29, N37, N62
<input type="checkbox"/>	50	N58		M90013 (CG)	M516142-2R (SAE J514) O-Ring Boss - Reamer ( for a 5/16-.24)	13	Special Cut Port	> 3	ER32 - 6"	M02, N28, N62
<input type="checkbox"/>	50	N58		L90012	500 2FR 90 Deg Chamfer Tool Carb	13	Chamfer and Edgebreak, Edgebreak Multiple Locations	> .75, tol .050 1.25	Solid - 4"	M02, M06, N16, N20, N28, N29, N30, N31, N50, N62
<input type="checkbox"/>	50	N58		C90003	0.250 TEM 3FR HSS - 1.0 LOC	14	Rough Interior Cavity, Finish Interior Cavity	> 1.5, > 1.25	Solid - 4"	M02, N16, N28, N62
<input type="checkbox"/>	50	N58		A90001	0.5000 FEM 2FR CARB	51	Finish Profile	tol .050 1.25	bal ER32 - 4"	BK26, M01, M02, M04, M06, N04, N16, N20, N22, N28, N30, N31, N37, N45, N60, N61, N62
<input checked="" type="checkbox"/>	60	N37	2	A90001	0.5000 FEM 2FR CARB	51	Rough Profile	tol .050 1.25	Rougher Solid - 4"	BK26, M01, M02, M04, M06, N04, N16, N20, N22, N28, N30, N31, N37, N45, N60, N61, N62
<input checked="" type="checkbox"/>	60	N37		A90047	0.2500 FEM 2FR CARB	11	Finish corners	> .38	bal ER16 - 4"	N04, N37, N45, N61
<input checked="" type="checkbox"/>	60	N37		A90043 (CG)	0.7500 FEM 3FR HSS	6	Deep pocket	> 1.25	Solid - 4"	N04, N37, N45, N61
<input checked="" type="checkbox"/>	60	N37		B90002	0.5000 BEM 2FR CARB	13	Surface pocket	> 1.1	ER32 - 4"	N04, N37, N45, N61
<input checked="" type="checkbox"/>	60	N37		D10013	0.047 Jobber Drill 2FR COBALT	14	Drill	> 1.0	Chuck	N04, N37, N45, N61
<input checked="" type="checkbox"/>	60	N37		O90015	1/4" 90 Deg Cobalt NC Spotting Drill	10	Spot drill	> 1.5	Chuck	M02, N04, N37, N45, N61
<input checked="" type="checkbox"/>	60	N37		D10122	0.1299 Screw Machine Drill 2FR COBALT	17	Drill	> .35	ER16 - 4"	N04, N37, N45, N61

ProShop will collate your tools automatically by operation and machine.

You can easily see if the tools are already in use throughout the shop.

Quickly gives data to your set up person on how to set up each tool and holder and preps it for off-line presetting.

## PRE-SETTING TOOL OFFSETS

As tools are measured on the presetter, those measurements are fed directly into ProShop's tool measurement fields for the Tool Caddy.



Shops who use offline presetters are more profitable in general!

[Modern Machine Shop Article](#)

# TOOL SETUP PAGE – PREPARING TO LOAD INTO MACHINE

**Work Cell: CD01**

CD01 Shift Tie-in / Shift Tie-in Master / Queued Work / Scheduled Work / Work Cell Prefs

Unique Id: CD01

Type: Caddy

Common Name: Caddy #01

Short Name:

Is Lathe?:

Is Scheduled Resource?:

Is Bottleneck Resource?:

Warn On Schedule When Parts Queued:

Schedule Efficiency Multiplier: 1.2

Standard Lead Time (Days):

Use Min / Part For Usage:

Hide in Option Lists:

Display Part Image in Work Queue:

Class:

Post Processor Format:

Department:


Training Records:

Description:

# Of Pockets: 16

Load Into: N37 (VF2 - Prototype) | Load Behavior: Clear All Existing | Starting With Pocket #: 1 | GO

Pocket #	RTA #	Tool #	Tool Desc	Holder	OOH	Length Offset	Length Wear	Rad/Dia. Offset	Radius Wear	Tool Life Now	Tool Life Warning
1	2	A90001	0.5000 FEM 2FR CARB	Rougher Solid - 4"	tol .050 1.25	2.4487					
2		A90047	0.2500 FEM 2FR CARB	bal ER16 - 4"	> .38	6.2547					
3		A90043 (OO)	0.7500 FEM 3FR HSS	Solid - 4"	> 1.25	3.1245					
4		B90002	0.5000 BEM 2FR CARB	ER32 - 4"	> 1.1	4.1254					
5		D10013	0.047 Jobber Drill 2FR COBALT	Chuck	> 1.0	5.3517					
6		O90015	1/4" 90 Deg Cobalt NC Spotting Drill	Chuck	> 1.5	2.5874					
7		D10122	0.1299 Screw Machine Drill 2FR COBALT	ER16 - 4"	> .35	3.5771					
8		R1253	10-32 FORM TAP	Floating Holder Tap	> 1.75	2.1456					
9											
10											
11											
12											
13											
14											
15											
16											



Digitally track tools from your transfer caddy to your machine.

# TOOL SETUP PAGE – TOOLS LOADED INTO MACHINE

**Work Cell: N37**

N37 Shift Tie-in / Shift Tie-in Master / Machine Schedule / Queued Work / Scheduled Work / Work Cell Prefs

Unique Id: N37

Type: NC Machine

Common Name: VF2 - Prototype

Short Name: VF2

Is Lathe?:

Is Scheduled Resource?:

Is Bottleneck Resource?:

Warn On Schedule When Parts Queued:

Schedule Efficiency Multiplier: 1.2

Standard Lead Time (Days):

Use Min / Part For Usage:

Hide in Option Lists:

Display Part Image in Work Queue:

Class:

Post Processor Format: HAAS MILL

Department: Production Mill

Training Records: 050-060-200

Description: 2019 Haas VF2 SS


Default Schedule Placement Rule: Latest (Hard Start Date)

Default Schedule Placement Days: 5

# Of Pockets: 20

Load Into: | Load Behavior: | Starting With Pocket #: 1 | GO

Pocket #	RTA #	Tool #	Tool Desc	Holder	OOH	Length Offset	Length Wear	Rad/Dia. Offset	Radius Wear	Tool Life Now	Tool Life Warning
1	2	A90001	0.5000 FEM 2FR CARB	Rougher Solid - 4"	tol .050 1.25	2.4487					
2		A90047	0.2500 FEM 2FR CARB	bal ER16 - 4"	> .38	6.2547					
3		A90043 (OO)	0.7500 FEM 3FR HSS	Solid - 4"	> 1.25	3.1245					
4		B90002	0.5000 BEM 2FR CARB	ER32 - 4"	> 1.1	4.1254					
5		D10013	0.047 Jobber Drill 2FR COBALT	Chuck	> 1.0	5.3517					
6		O90015	1/4" 90 Deg Cobalt NC Spotting Drill	Chuck	> 1.5	2.5874					
7		D10122	0.1299 Screw Machine Drill 2FR COBALT	ER16 - 4"	> .35	3.5771					
8		R1253	10-32 FORM TAP	Floating Holder Tap	> 1.75	2.1456					
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											






# TOOL SETUP PAGE – OFFSET FILE GENERATED FOR MACHINE

Class:

Post Processor Format:	HAAS MILL
Department:	Production Mill
Training Records:	050-080-200
Description:	2019 Haas VF2 SS
Default Schedule Placement Rule:	Latest (Hard Start Date)
Default Schedule Placement Days:	5



<input checked="" type="checkbox"/>	8	R1253	10-32 FORM TAP	Floating Holder Tap	> 1.75	2.1456
<input checked="" type="checkbox"/>	9					
<input checked="" type="checkbox"/>	10					
<input checked="" type="checkbox"/>	11					
<input checked="" type="checkbox"/>	12					
<input checked="" type="checkbox"/>	13					
<input checked="" type="checkbox"/>	14					
<input checked="" type="checkbox"/>	15					
<input checked="" type="checkbox"/>	16					
<input checked="" type="checkbox"/>	17					
<input checked="" type="checkbox"/>	18					
<input checked="" type="checkbox"/>	19					
<input checked="" type="checkbox"/>	20					

location where offset file is saved to and read from:

CHECKOUT

G10 file is generated based hard coded format outputs for HAAS, Fanuc, Mitsubishi

Reduce data entry errors by having ProShop create an offset file for upload.

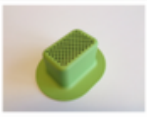
No more fat fingering the offsets!

# LOAD TOOLS, FIXTURES, MATERIAL, G-CODE AND MAKE 1ST PART

**Part: 41114-101: Process Dev**

Internal Part #:	SYS1-41114-101	Part Description:	Housing with primer	Client:	SysAero Engineering (AS)
Part Name:	Ejector Housing Machined	Part Family:	41114 Housings	Main Contact:	Tom

W.O.#	OP#	Description	Part Dev User	Message Planner	Process Dev Type	K-Base?	Solution	Part Dev Status	Who's Responsible	Planner Comment	Images
18-0150		Parts need to be cleaned better in OP50. Oil from the machine is on the parts.	Paul Van Metre	✓	Process Dev	✓	Updated work instructions.	Resolved	Amy Alexander	New process will ensure parts don't get splotchy after paint.	
18-0266		Lots of air cutting. Need to make the tool path more efficient.	Adrian Samson	✓	Process Dev		Optimize program	Resolved	Brian Anderson	Saved 0:36 seconds per part.	
19-0046		2-56 tap keeps breaking. Not sure why	Mark Machinist	✓	Process Dev	✓	Buy better quality taps	Reviewed/Assigned	Ben Johnson		
							Check that program is for correct pitch.	Unsuccessful	Mark Machinist	Not the problem.	

Then record all your process development to make the setup better for next time.

## Process Development for each part or project to track:

- Issues and troubleshooting steps
- Process improvement idea
- Revision changes and summaries.
- Quick process ideas directly from the estimating team.

You will always know the status of each item and who's responsible for it.

# ONCE FIXTURES, TOOLS, OFFSETS, G-CODE ARE IN MACHINE, THEN MACHINING THE FIRST PIECE IS PERFORMED. THE PART IS THEN INSPECTED.

## Work Order: 19-0017 OP 50: First Article

Part Check Info | Full IPC | First Article Master | Form 3 - Characteristic Accountability | Form 2 - Product Accountability 45 | 50 | 60 | 70 | 85 | 90 | 95

Part #: 1111-22-333	Qty Queued: Calc:	Status: Active
Part Name: Manifold	Qty Ordered: 10	Part Rev: B
Customer: Premier Aerospace (AS)	Cust. due: 5/25/2020	Drawing Rev: B

Standard Part Tolerance: In inches X ± .03 .XX ± .01 .XXX ± .005 .XXXX ± .0001 ANGLE ± .1°  
 Show All Dims On First Article: First Article Done On Print: Omit All "1st Check Only" Dims: Inspection frequency: 25

Search:

Dim Tag #	Drawing Spec	Inspec Equip	Nom Dim	Tol ±	IPI?	Op FA Dim	Op from nom	Gage #	QA 1stQA From NomQA IDQA 2ndQA ID
1	4.00	CAL069		.01	✓	4.001	0.001	CAL069	
2	4.00	CAL943		.01		3.999	0.001	CAL069	
3	3.000	Caliper		.003	✓	3.003	0.003	CAL069	
4	3.000	Caliper + Pins		0.005		3.001	0.001	CAL069	
5	Thread 1/2-13 4x	GO / NO-GO			✓	✓		TG154	
8	.625			.01	✓	.624	0.001	MIC231	
9	Serial Number				✓	12345			

ProShop will analyze the inspection results instantly and provide alerts of out-of-tolerance condition and prompt to generate NCRs which can automatically flag your quality team or leads to help provide support - helping to get quality issues resolved as quickly as possible.

# ONCE FAI IS VERIFIED, THE SETUP CAN BE SIGNED OFF AS COMPLETE, AND “CERTIFIED TO RUN”. TIME TARGETS ARE VERIFIED. PRODUCTION CAN START.

Work Order: 19-0017 OP 50

## Op#50

**SAVE CHANGES** **CANCEL**  stay in

Get

Operation Description: Milling - VF2, 5-axis

Work Center: N37 (VF2 - Prototype)

Operation Type: Manufacturing

Operation Process Rev: A

Certified To Run:

1st Part Complete:

Qty Queued Next Op:

Complete:

Set-up: 140

Cycle: 95

Change out: 5

Min/Part: 110

Est Set-up:

Est Cycle:

Est Change out:

Est Min/Part:

---

**First Article**

Standard Part Tolerance: in inches X ± .03 XX ± .01 XXX ± .005 XXXX ± .0001 ANGLE ± 1°

Show All Dims On First Article: First Article Done On Print: Omit All "1st Check Only" Dims: Inspection frequency: 25

Search:

Dim Tag #	Drawing Spec	Inspec Equip	Nom Dim	Tol ±	IPI?	Op FA Dim	Op from nom	Gage #	QA 1st	QA From Nom	QA ID	QA 2nd	QA ID
1	4.00	CAL069		.01	✓	4.001	0.001	CAL069					
2	4.00	CAL943		.01	✓	3.999	0.001	CAL069					
3	3.000	Calper		.003	✓	3.003	0.003	CAL069					
4	3.000	Calper + Pins		0.005	✓	3.001	0.001	CAL069					
5	Thread 1/2-13 4x	GO / NO-GO			✓			TG154					
8	.625			.01	✓	.624	0.001	MIC231					
9	Serial Number				✓	12345							

Overall Go / No Go:

By following this logical set of steps, setups can be as short as possible, spindles can be turning more often, and more revenue is flowing through the machines.



# INTERESTED?

## Contact Us!



360.515.7576



Contact@ProShopERP.com



www.ProShopERP.com

