SERIAL NUMBER: T-294 COOK DATE:

MOLD SIZE BY PO N/A at time of order

ORDER DATE 08JUL23 SHIP DATE: 11JUL23

FOR: Yellowjacket

SIZE 1.7 TYPE SPTT

THREAD 1"MT OTHER

MATRIX (H) WEIGHT

MATRIX (S) WEIGHT

BINDER WEIGHT

BLANK TJ

BILLET 5394891 TUBE

WELD MPI MPI PIC BRAZE Richard

THREAD GAGE STAND OFF

FINAL DIAMOND GRIND SIZE 1.7

LENGTH TO WELD /

FINISHED PIC TAKEN BY Ro CRATED BY Ro DATE: 7/17

International domestic X

SHORT BIT & TOOL CO
225 GOLD STREET
GARLAND TX 75042
972-205-1011
shortbits@gmail.com

Certificate of Conformance

Serial Number	Size	Type	Steel or Matrix	Shank Diameter	Bore
T-294	1.7	SPTT	Steel		

Component	Material	Vender	Lot or Heat Number
Billet	4140	RHW	5394891
Hard Powder			
Soft Capping Powder			
Tool Joint			
MIG Weld			
Tubing			
Inspection			
Diamond Grinding To Size			
Weld MPI			
Thread Gaging		1" MT	

Signed By: PBeggs date: 7/10/2025

TC Industries – Mill Products Division
3703 S. Route 31
Crystal Lake, IL 60012
Tel 815-459-2400
Fax 815-333-8367

TCI-MPD

Material Testing Report

TC Industries Test Center, 3703 S. Route 31, Crystal Lake, IL 60012

Report No	Report Date
33578	9/29/2022

Customer Code	Bill Customer Address Code	Bill Address	Bill City	Bill State	Bill Zip	Bill Country
Capital	DeWitt	240 S. Bridge Street 3rd Floor	DeWitt	MI	48820	USA

Heat Treat Process Parameters	Value	Unit
Austenitizing Temperature (F)	1600	Degrees F
Austenitizing Time (minutes)	92	minutes
Tempering Temperature (F)	1200	Degrees F
Tempering Time (minutes)	140	minutes

Part No	Part Description
RD 2.750 x 288 RL 4140 110Y B7 BC 354BC F1554 CVN@-20F	ASTM A193B7 A434BC A354BC F1554 GR105 110Y 31 ft-lbs@-20F

Job No	PO No	Customer Part No	Customer Part Revision	Process	Heat No	Grade
33578	025417	WQTS-R2		WATER QUENCH TEMPER STRAIGHTEN	5394891	4140

ACCREDITED
Testing Cert #1281-01

Ken Rueff
Ken Rueff
Test Center Supervisor

All test results reported below were performed by an A2LA accredited lab

Cert Note

Control No	Specification Description	Unit	Lower Limit	Upper Limit	Value	Result	Gage/Outside Lab
672269	Midradius Brinell Hardness	HBW		321	295	PASS	Boss Brinell Scope L802P
					299	PASS	
	Surface Brinell Hardness		255		295	PASS	Brinell Tester R62
					298	PASS	
672582	Charpy Impact (CVN ft-lb) 10x10mm	Ft Pound			62	PASS	Charpy Impact Tester 8
					67	PASS	
					72	PASS	
	Charpy Impact Minimum Average (CVN ft-lb)		31		67	PASS	
	Charpy Impact Minimum Single Value (CVN ft-lb)		21		62	PASS	
	Charpy Testing Temperature	Degrees F	-22	-18	-20	PASS	CVN Therm (Chiller) 42158
	Tensile Strength (Ultimate ksi)	ksi	125	150	136	PASS	Tensile Machine 1041
					136	PASS	
					141	PASS	
	Yield Strength (0.2% offset)		110		116	PASS	
					117	PASS	
					118	PASS	
	Elongation (%)	%	16		20	PASS	
					20	PASS	
					20	PASS	
	Reduction of Area (%)		50		58	PASS	
					63	PASS	
					64	PASS	

Sampling is in accordance with FC 4.10.03 (Sampling Plans and Test Methods). This sampling plan is used unless other plans are indicated by the customer's standard or specification. Test results and process information listed on this report are limited to the processes performed by TC Industries or its subcontractors. No representation is made that TC Industries certifies conformance to specification requirements relating to processes not performed by TC Industries or its subcontractors. Results apply to the sample as received. Results relate to the items tested. TC Industries Test Center decision rule is: Simple Acceptance, Pass/Fail, to the published criteria contained in the Purchase Order or specification.

FC 4.12.16F 01/07/2014

Job No	Heat No	Grade	Part No	Serial No	Mill Tag No	Pieces	Quantity	Net Weight	Flat Thickness/ Round Diameter	Length	Width/ Thickness
33578	5394891	4140	RD 2.750 x 288 RL 4140 110Y B7 BC 354BC F1554 CVN@-20F	MPD184923	A1546V	9	4500	4,500	2.75	292	0
			RD 2.750 x 288 RL 4140 110Y B7 BC 354BC F1554 CVN@-20F	MPD184924	A1547V	9	4500	4,500	2.75	292	0
			RD 2.750 x 288 RL 4140 110Y B7 BC 354BC F1554 CVN@-20F	MPD184925	A1548V	9	4500	4,500	2.75	292	0
			RD 2.750 x 288 RL 4140 110Y B7 BC 354BC F1554 CVN@-20F	MPD187103	A1546V	9	4500	4,500	2.75	292	0
			RD 2.750 x 288 RL 4140 110Y B7 BC 354BC F1554 CVN@-20F	MPD187104	A1547V	8	4000	4,000	2.75	292	0
			Job Totals	5	5	44	22000	22,000			


1.7 SPTT
T294
MADE IN USA