

**DIAMOND
PRODUCTS**

**FLUSH CUT HYDRAULIC HAND SAW
HS-20-F-12 20.00" - 1.29in³ (12GPM)**



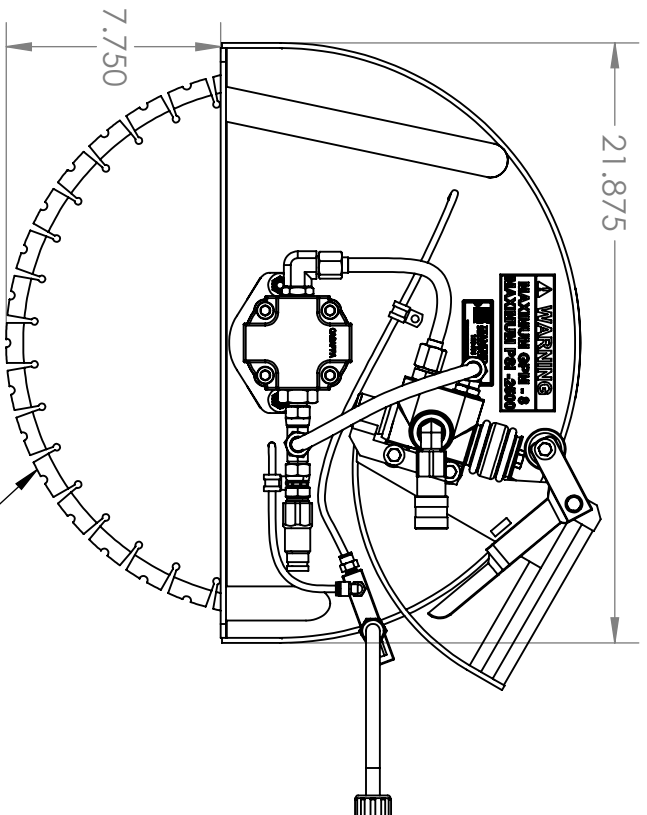
**PARTS MANUAL
OCTOBER 2014
PART NUMBER 1803020
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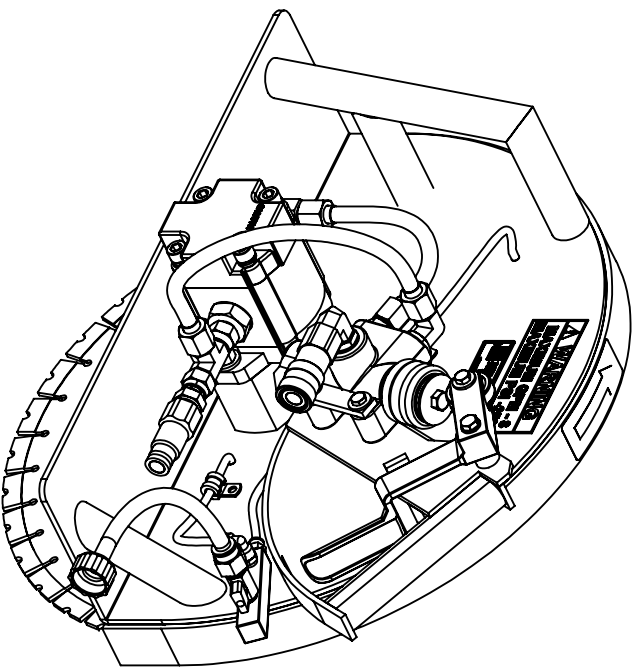
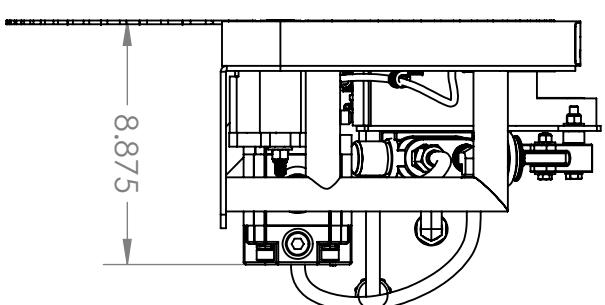
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Flush Cut Hydraulic Hand Saw

HS-20-F-12 - 20.00" 1.29in³ (12GPM Rated)



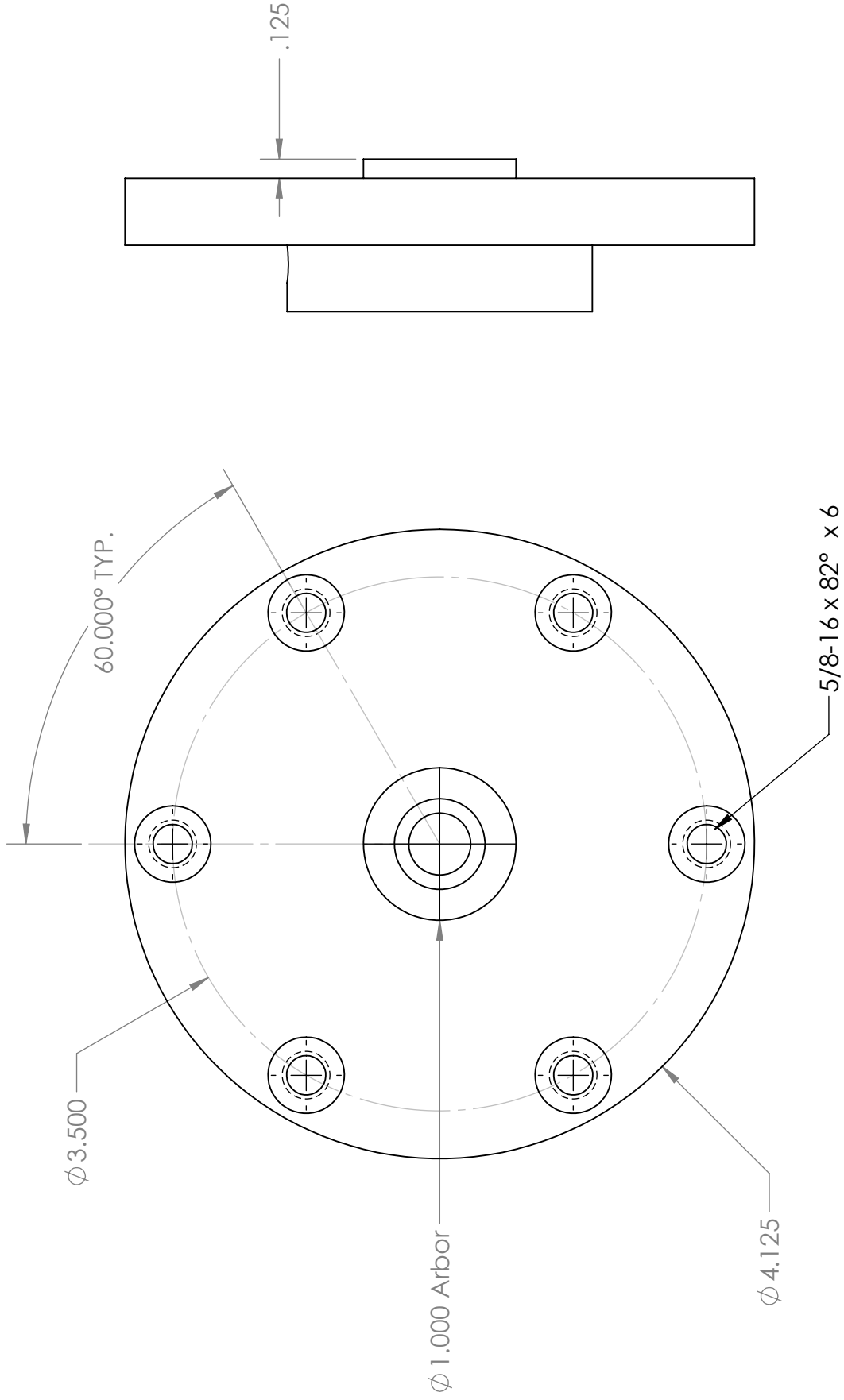
NOTE: STANDARD 20.00" DIAMETER BLADE



HYDRAULIC RECOMMENDATION	2500psi - 12 gpm
BLADE RPM	2150 rpm @ 12 gpm
HYDRAULIC CONNECTIONS	Parker No Spill 1/2"
MAXIMUM CUTTING DEPTH	7.75"
SAW WEIGHT	39lbs, No Blade, No Cover
BLADE FLANGE	Flush Cut, 6 on 3.50" 5/16-18 x 82° CS

* NO BLADE INCLUDED

2502545 - Blade Flange **Flush Cut Hydraulic Hand Saws**



HAND SAW SAFETY WARNINGS



CAUTION

PERSONAL SAFETY

- Read and completely understand instructions before operating saw.
- DO NOT operate saw under the influence of drugs or alcohol.
- Always wear safety approved hearing, eye, head and repertory protection.
- Sturdy boots with non-slip soles aid in providing proper footing. Use of steel-toed safety boots is recommended.
- Under certain conditions sparks may fly, therefore never wear clothes made of flammable material or operate near flammable items.
- Know how to stop the saw quickly in case of emergency.
- Keep all parts of your body away from the blade at all times, blades are sharp and can cause serious injury or death.
- Do not use hands to search for hydraulic leaks, fluid escaping under pressure can penetrate skin and cause severe injury. If any fluid is injected into the skin, seek medical attention immediately.
- Wear heavy work gloves to avoid contact with concrete slurry, which can cause serious skin irritation.



BLADE SAFETY

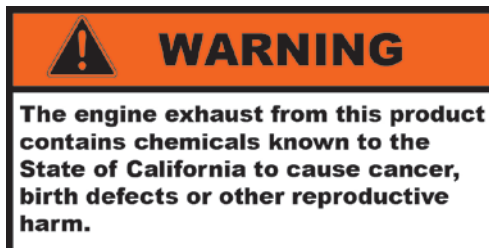
- Examine cutting blades before each use. Blades should have no cracks, nicks, or flaws. Center hole should be undamaged as well. Use only blades recommended for your model.
- This saw should cut only material that is specified on each cutting blade. Read instructions which are located on the blade to determine which material the blade is designed to cut.
- Use only steel centered diamond blades manufactured for use on concrete cutting hand saws DO NOT use high speed steel blades, carbide tipped blades, or abrasive blades.
- Inspect blade flanges for damage, excessive wear, and cleanliness before mounting blade. Blades should fit snugly on clean, undamaged shaft.
- Use only blades marked with a maximum operating speed greater than the blade shaft speed.
- DO NOT remove flow control form hydraulic circuit. Do NOT exceed the maximum safely allowable speed. DO NOT operate this equipment if you suspect it of exceeding this speed.

GENERAL SAW SAFETY

- Always relieve all pressure before disconnecting hydraulic hoses. DO NOT apply pressure to damaged hoses or fittings.
- Always remember to keep both hands on the handles when the saw is running.
- Never leave the saw unattended with the hydraulic hoses connected to power unit.

CUTTING/WORK AREA SAFETY

- Never operate the saw in any application or job where you are not trained or supervised.
- Operate only in well ventilated areas.
- Keep bystanders and or animals out of work area.
- DO NOT operate the saw in areas of combustible materials or fumes. Sparks may occur from blade that could cause a fire or explosion.
- Know the material and work area you are sawing. Hazardous conditions such as live electric, water, or gas lines can be concealed in material.



WARNING

FAILURE TO COMPLY WITH THE PRECEDING WARNINGS COULD RESULT IN SERIOUS BODIILY INJUST OR DEATH!

HAND SAW OPERATING PROCEDURES

Blade Mounting

- Be certain that you have correct diamond blade for the application. Contact your authorized servicing dealer for the correct specification. Ensuring that the correct blade is used will greatly increase performance and durability of blades resulting in cost savings.
- The blade shaft flanges and arbor must be inspected for damage and cleaned before mounting the blade. If damaged, replace worn or broken parts. Inspect blade for damage to arbor hole and flange area before attempting to mount blade.
- Make sure the arrow on the blade is pointing in the proper direction of rotation. The drive pin in the outer blade flange must go completely through the blade into the matching hole in the inner blade flange. Using the wrench provided, tighten flanged nut securely (Approximately 30 ft. lbs.). Note that the flanged nut has left hand threads, which tighten by turning counter clockwise.

BEFORE SAWING

- Do not use conventional (wet) diamond blades without water. You must have 2.5-5 gallons of water per minute flowing over the blade for proper cooling and ensuring proper blade life. For wet sawing, be sure to spray holes in the water manifold are open and each side of the blade receives adequate water flow.
- Test your water supply for pressure and flow rate before starting saw.
- Mark the cutting line clearly so that the saw operator can follow the line without difficulty.

CUTTING THE LINE

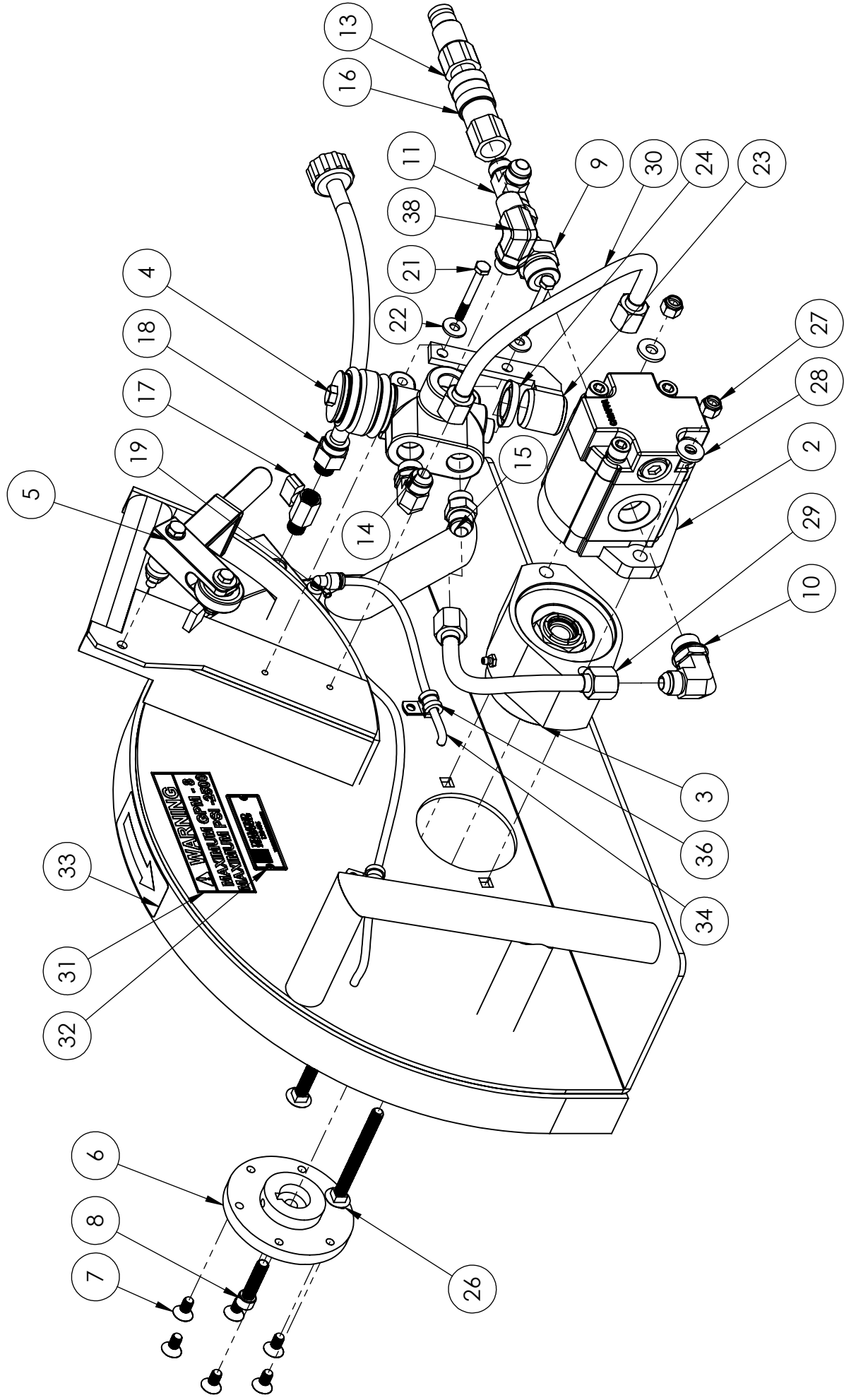
- With the saw blade above the cut, squeeze the trigger to start the water flowing and allow the saw blade to reach the desired speed before the blade contact the surface. Pivot the saw on the front roller and slowly lower the blade into the cut line. Do not exceed more than 2.00" cutting depth per pass. At the end of the cut, pivot the saw on the front roller and raise the blade until it clears the cut, then release the trigger. Allow the blade to come to a stop before setting down. Increase the depth of cut by 2.00" by increasing the blade diameter and follow the previous cut line. This procedure is known as step cutting. Continue with this procedure in 2.00" increments until you have reached your desired depth of cut.
- When cutting vertical wall cuts, start from the top working down. Make the first pass shallow, being extra careful not to go off the cut line. Increase cut depth with each pass following the previous cut. If the first cut starts to wander, stop sawing and correct the cut by plunging a straight and deeper cut before and after the error. After this go back with the blade cutting twice the depth of the error and cut between the two using the blade to guide past the error.
- Horizontal cuts are the most difficult to make correctly. Before starting the horizontal cut, make sure there is enough room for you to work without reaching beyond your area of control. When sawing from a lift or scaffolding, always figure the amount of hoses you will need to tie off. Leave only what you need for the job.

HAND SAW MAINTENANCE INSTRUCTIONS

- Check all hydraulic hoses and connections daily. Any leakage of hydraulic fluid will require immediate retightening or replacement of parts. When replacing hydraulic components use only parts with proper pressure ratings. **WARNING!** Before disconnecting hoses, be sure to relieve all pressure. Do not use damaged or non-rated hoses or fittings.
- Tighten fasteners occasionally. Nuts and bolts may become loose particularly after the first few hours of use.
- Check hydraulic supply for correct pressure and flow rate that is appropriate for your saw, all saw have a GPM rating decals.
- Clean saw by removing all accumulated dust or slurry after use. If allowed to dry, the slurry will harden and could impair efficiency and performance.
- Inspect the blade guard frequently for damage and wear. Concrete slurry can erode the aluminum in the blade guard. If any portions of the blade guard measures less than 3/16" (.187) discard unit.

Flush Cut Hydraulic Hand Saw

HS-20-F-12 - 20.00" 1.29³ (12GPM Rated)



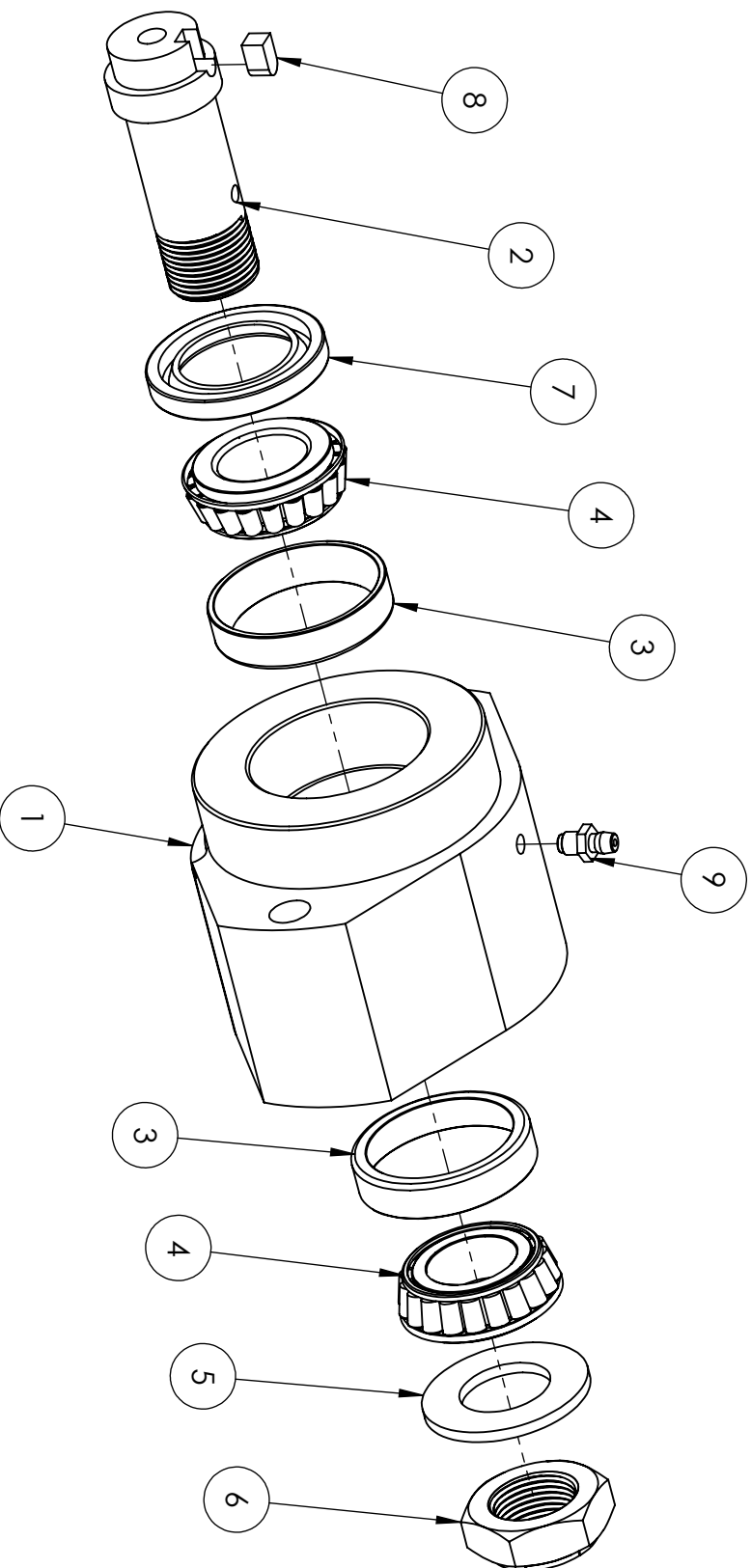
Flush Cut Hydraulic Hand Saw

HS-20-F-12 - 20.00" 1.29³ (12GPM Rated)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	2503512	20.00" FLush Cut Hand Saw	1
2	2600458	Cassappa Hyd. Motor, 1.29ci W/Anti-Cav Plate	1
3	6040437	Bearing Block, Flush Cut	1
4	6070252	HS Metro Valve Assembly	1
5	6070416	Hydraulic Hand Saw Single Trigger Assembly	1
6	2502545	Flush Cut Hub	1
7	2903013	5/16-18 Flat Socket Head Cap Screw	6
8	2900357	3/8-16 x 1.50" SHCS	1
9	2502920	Adaptor, #12 O-Ring x 1/2 MJIC	1
10	3200803	Elbow Fitting, 1/2" MJIC x 5/8" MORB	1
11	3200332	Swivel Run Tee, 08-MJIC x 08-MJIC x 08-FJIC	1
12	3201274	Adaptor Fitting, 1/2" MPT x 1/2" FJIC	1
13	3200105	Nipple, 1/2" Q.D.	1
14	2502924	Elbow Fitting, 1/2" MORB x 1/2" MJIC 90 Deg.	1
15	2702689	Fitting, 1/2" MORB x 1/2" MJIC	1
16	3200104	Coupler, 1/2" Q.D.	1
17	3201271	Water Valve, 1/4"NPT	1
18	3201875	Hose Assy, 3/8" x 12, 3/4" F.Garden x 1/4"MPT	1
19	2506348	Push Quick Fitting, Male Elbow 1/8NPT x .250 OD	1
20	2506350	Push-Connect Fitting, 1/4" Tube x 1/8"MPT	1
21	2901000	1/4-20 x 2.25" HHCS	2
22	2900126	1/4" USS Flat Washer	4
23	2502911	Valve Cap, Hand Saw 20" & 24"	1
24	2505906	U-Cup Seal, 1.00 ID x 1.50 OD	1
25	2900010	1/4-20 Nylon-Insert Hex Locknut	2
26	2903040	3/8-16 x 4.00 Carriage Bolt	2
27	2900018	Lock Nut, 3/8-16 Nylon	2
28	2900567	5/16" Flat Washer	2
29	6070468	20.00" Hand Saw Front Tube Assembly	1
30	6070469	20.00" Hand Saw Rear Hydraulic Tube Warning	1
31	1800864	Label, 12GPM 2500 PSI	1
32	1800169	DP S/N Nameplate	1
33	1800865	Rotation Label	1
34	1104098	1/4 OD Flexible Tubing (Sold Per Inch)	24
36	2502914	1/4" Cable/Hose Loop Clamp	2
37	3201094	1/8" Solid Hex-Socket Plug	1
38	3205555	Elbow, 1/2" MORB x 1/2" MPT 90 Deg.	1

Bearing Block Assembly

6040437 - Assembled Flush Cut Bearing Block



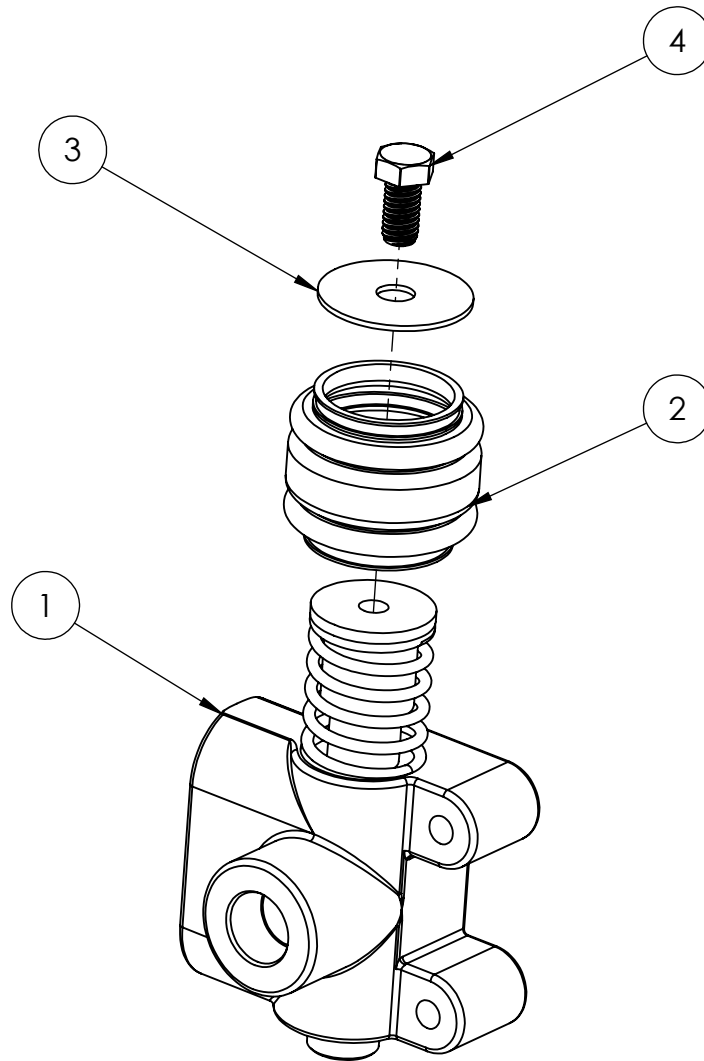
NOTE: WHEN REPAIRING/REBUILDING BEARING BLOCK, LOCK NUT (2902961) MUST BE TORQUED TO 50LB-FT. ROTATE SHAFT BY HAND TO ENSURE NO END PLAY IN SHAFT, SHAFT SHOULD NOT BE OVERTIGHTENED.

WHEN REPAIRING/REBUILDING BEARING BLOCK, GREASE ADEQUATELY USING NLGI No.2 GREASE. BEARING BLOCK GREASE CAPACITY IS 1.5oz.

ITEM NO.	PART NUMBER	Description	QTY.
1	2505077	Aluminum Housing, FC HS	1
2	2702945	Flush Cut Shaft	1
3	2501629	Bearing Race L44610	2
4	2501628	Bearing L44643	2
5	2502934	Spindle Washer 1"	1
6	2902961	Expanding Hex Locknut RH	1
7	2501494	Seal, 1-1/4" x 1.979" x 1/4"	1
8	6075059	Key, 1/4" Sq X 15/32"	1
9	2900706	Grease Zerk, 1/4-28 Straight	1

Metro Valve Assembly

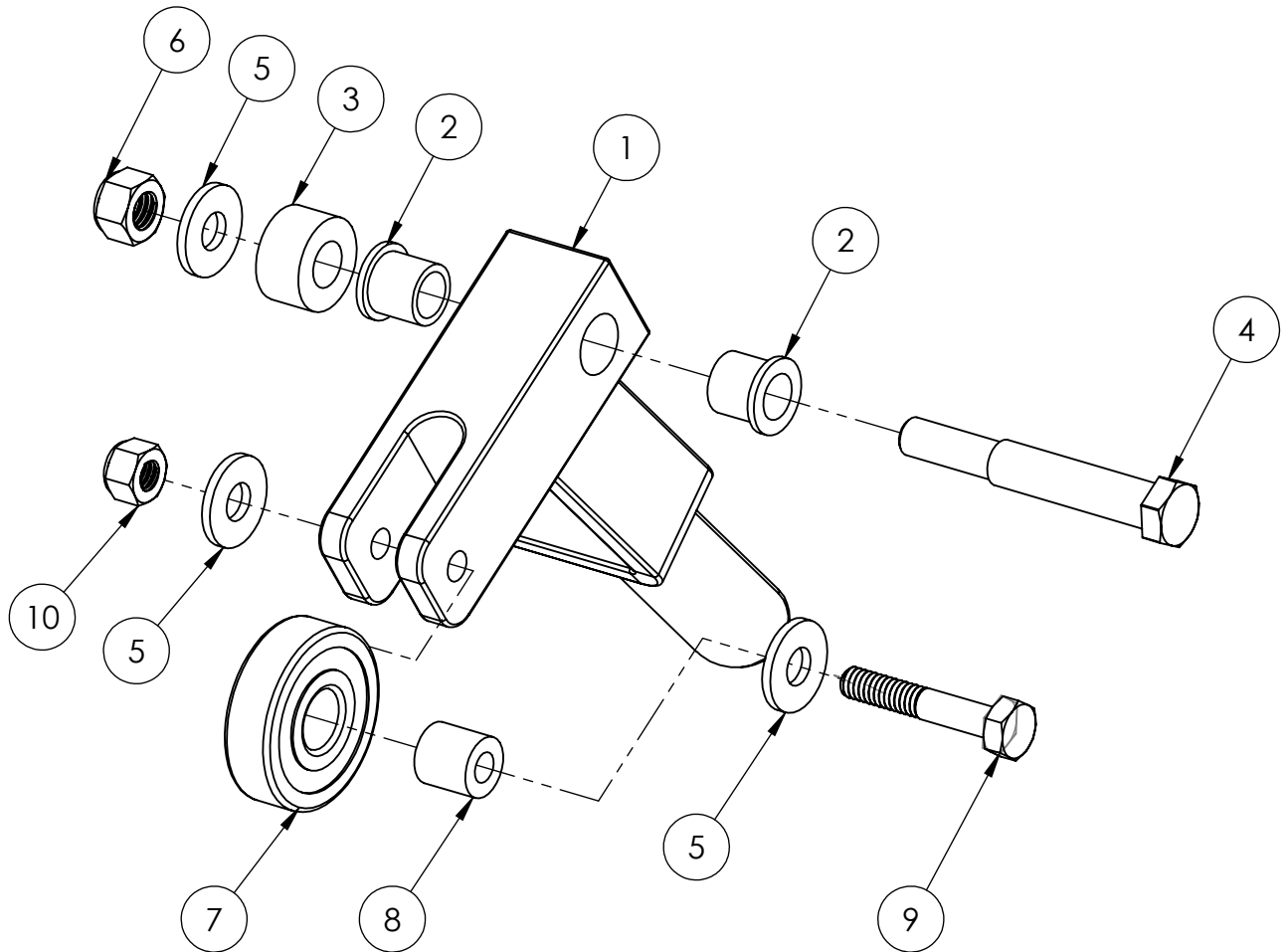
6070252 - Valve Assembly



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	2702688	Metro Flow Valve	1
2	2507033	Bellow, Hand Saw	1
3	2907070	Washer, 3/8" x 1-5/8"	1
4	2900196	3/8-16x.750 HEX CAP SCREW	1

Single Trigger Assembly

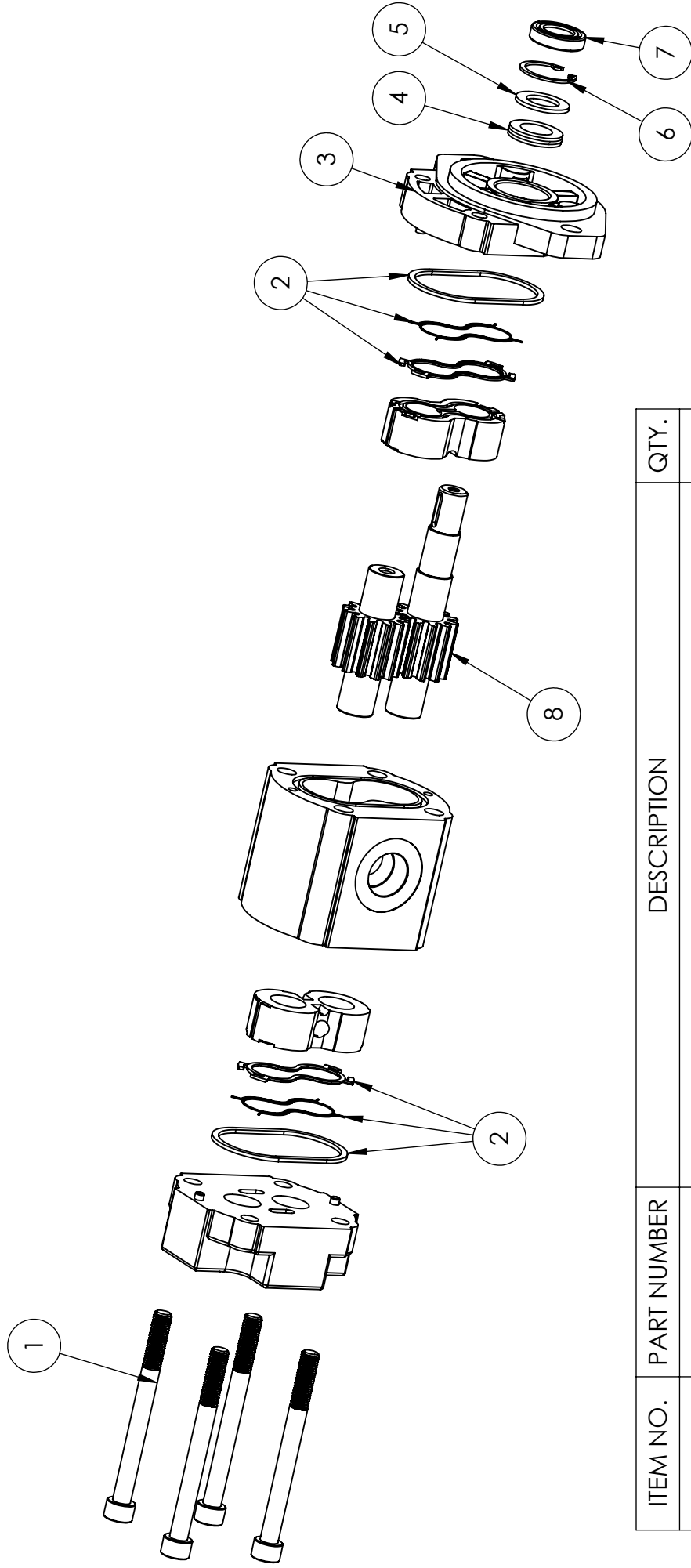
6070416 - Hydraulic Hand Saw Single Trigger Assembly



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	6040498	Single Trigger	1
2	2501583	Bearing, 3/8" ID Flanged Bronze	2
3	2501515	Bushing UHMW	1
4	2502120	Pivot Bolt, HSFC	1
5	2900126	1/4" USS Flat Washer	3
6	2900039	5/16-18 x .625" Nylon-Insert Hex Locknut	1
7	2502897	Bearing	1
8	2502576	1/4" x 1/2" Sleeve Bushing	1
9	2900048	1/4-20 x 1.50" HHCS (Grade 5)	1
10	2900010	1/4-20 Nylon-Insert Hex Locknut	1

Casappa Hydraulic Motor

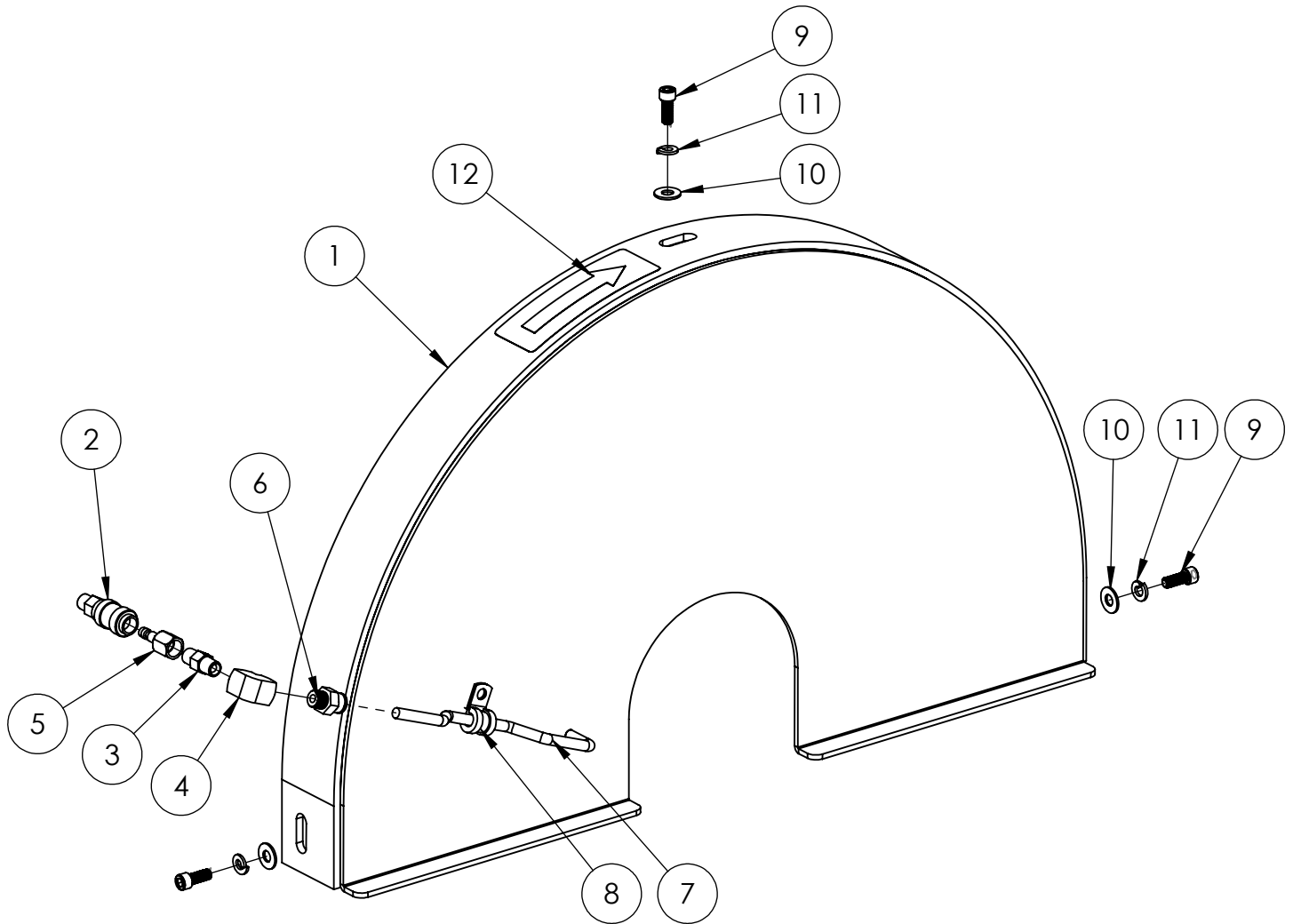
2600458 - 1.29 C.I. w/Anit-Cav



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	2901971	M10-1.50 x 110MM SHCS	4
2	2502933	Hydraulic Motor Seal Kit, Bi-Rotational PLM 20.03-20.31	1
3	3205792	Cassappa Motor Front Cover	1
4	2501630	Hydraulic Motor Seal	1
5	2502563	Backing Ring	1
6	2707005	Seal Snap Ring	1
7	2507139	Wiper Seal	1
8	2703432	5/8" Shaft, 1.29.CI Hydraulic Motor W/1/4-20 Tapped End	1

Hydraulic Flush Cut Hand Saw Optional Cover

2502559 - 20.00 Flush Cut Hand Saw Cover Assembly



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	2502201	20" FCHS Blade Guard	1
2	3202146	.125" Quick Disconnect (Female)	1
3	3202201	1/8 MPT Hex Nipple	1
4	50785K35	1/8 FPT 90° Elbow	1
5	3202145	1/8 Male Quick Disconnect	1
6	2506350	Push-Connect Fitting, 1/4" Tube x 1/8"MPT	1
7	1104098	1/4" O.D. Flexible Tubing (Sold Per Inch)	12
8	2502914	1/4" Cable/Hose Loop Clamp	1
9	2907005	1/4-20 x 5/8 SHCS	3
10	2900009	1/4 SAE Flat Washer	3
11	2900024	1/4" Split Lock Washer	3
12	1800865	Rotation Label	1

NOTE: WHEN GUARD IS ORDERED SEPERATELY FROM SAW, DRILLING AND TAPPING THREE HOLES IS REQUIRES. DRILL AND TAP HOLES .813" IN FROM OUTER EDGE ALIGNED WITH THE THREE HOLES IN THE COVER (2502203). DRILL AND TAP TO 1/4-20 UNC THREAD.

Hand Saw Maintenance & Repair Record

Date	Service Performed	Part Used

EQUIPMENT AND PARTS WARRANTY

Diamond Products warrants all equipment manufactured by it against defects in workmanship or materials for a period of one (1) year from the date of shipment to Customer.

The responsibility of Diamond Products under this Warranty is limited to replacement or repair of defective parts at Diamond Products' Elyria, Ohio factory, or at a point designated by it, of such parts as shall appear to us upon inspection at such parts, to have been defective in material or workmanship, with expense for transportation and labor borne by Customer.

In no event shall Diamond Products be liable for consequential or incidental damages arising out of the failure of any Product to operate properly.

Integral units such as engines, electric motors, batteries, transmissions, etc., are excluded from this Warranty and are subject to the prime manufacturer's warranty.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND ALL SUCH OTHER WARRANTIES ARE HEREBY DISCLAIMED.



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