

ROTTLER

THE CUTTING EDGE H76 OPTIONAL EQUIPMENT PARTS MANUAL



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NOTE: WHEN ORDERING OPTIONS ORDER BY PART NUMBER
ALONG WITH MACHINE MODEL AND SERIAL NUMBER

THERE IS A MINIMUM ORDER OF \$25.00

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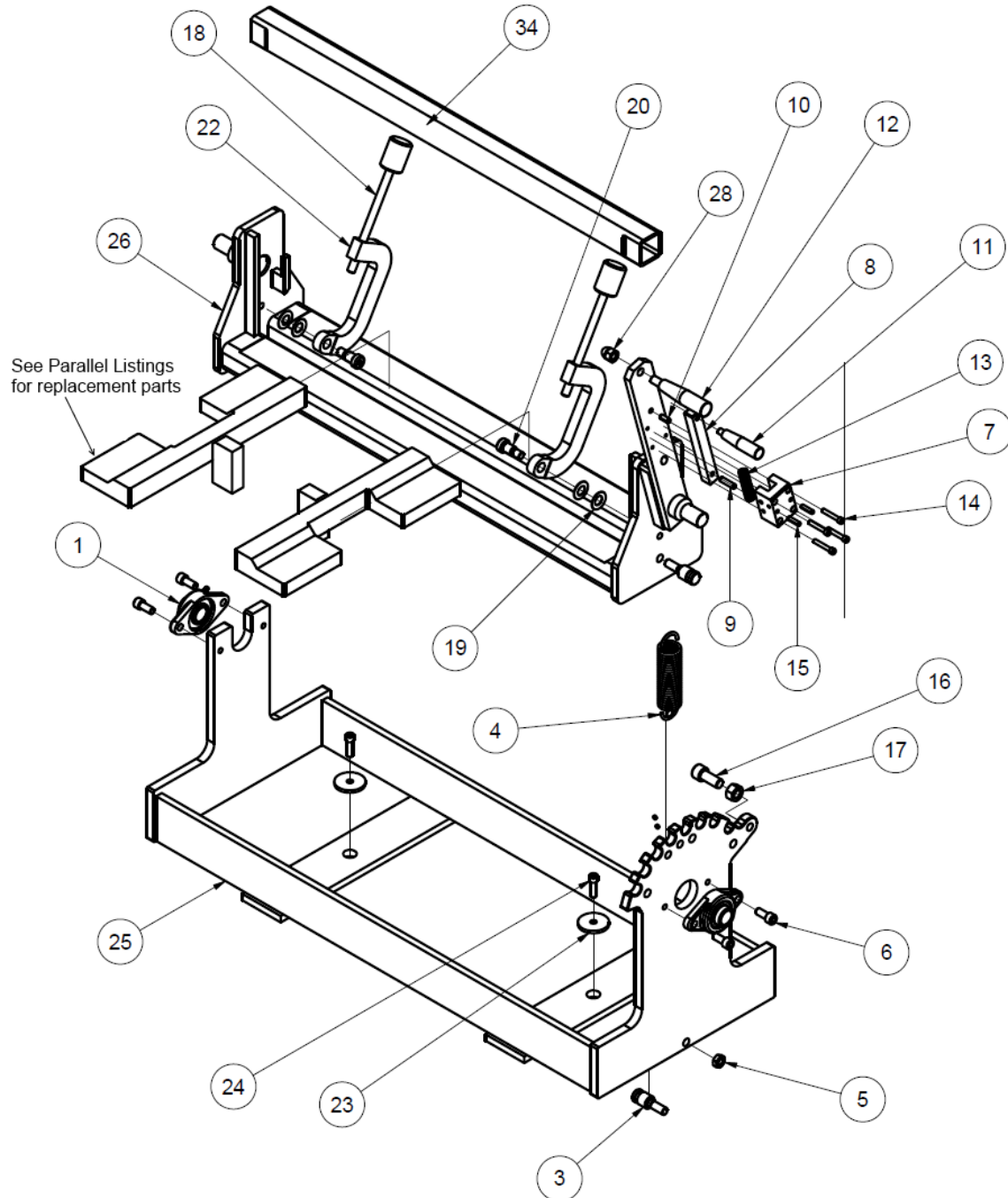
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FIXTURES

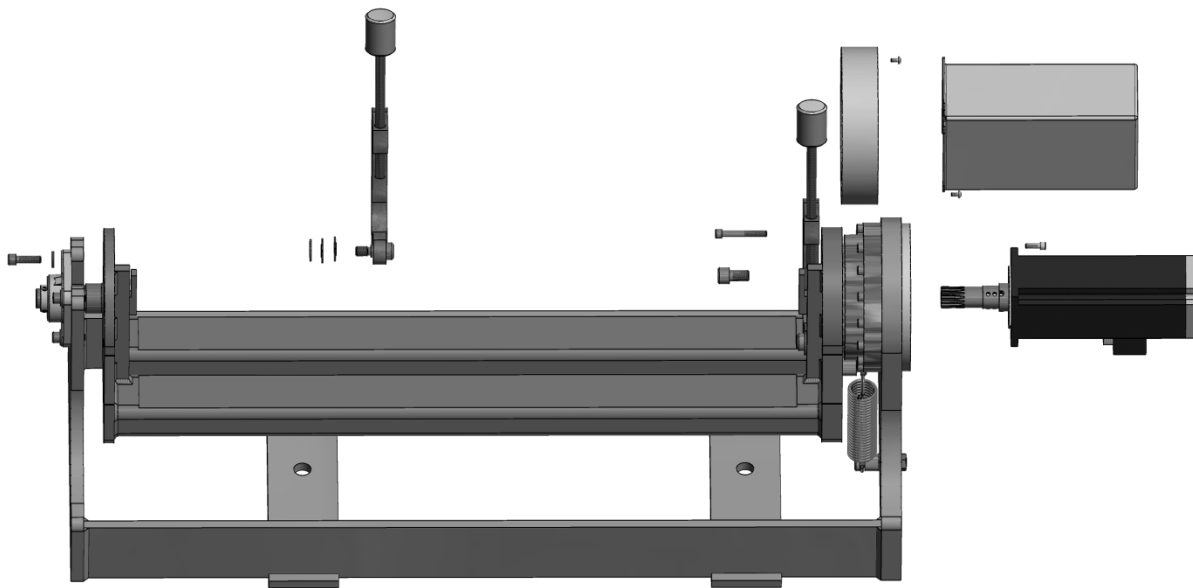
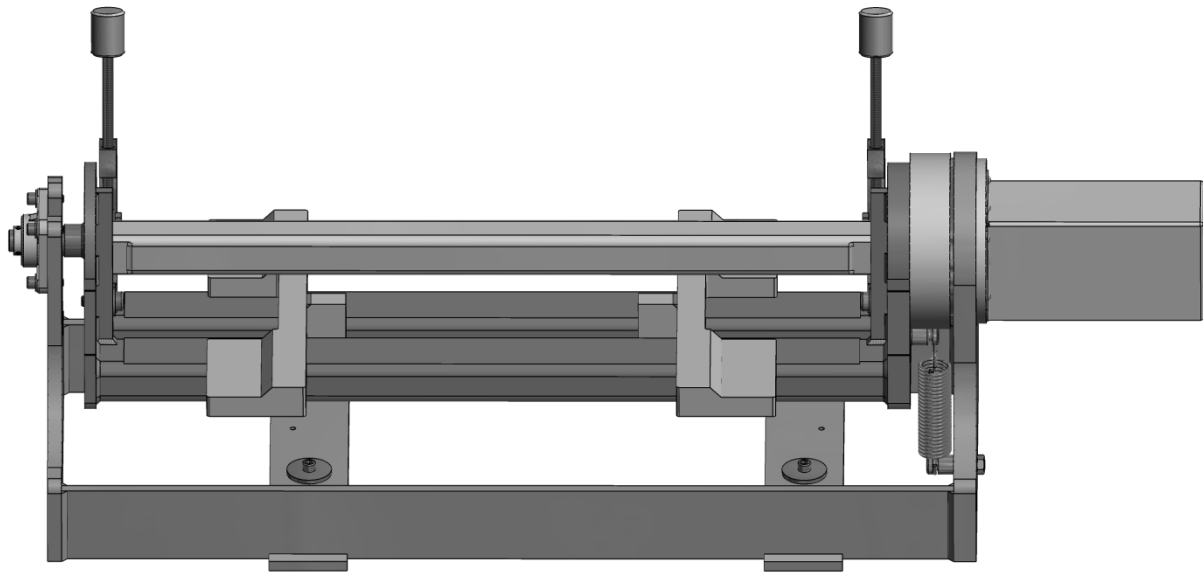
BLOCK FIXTURES

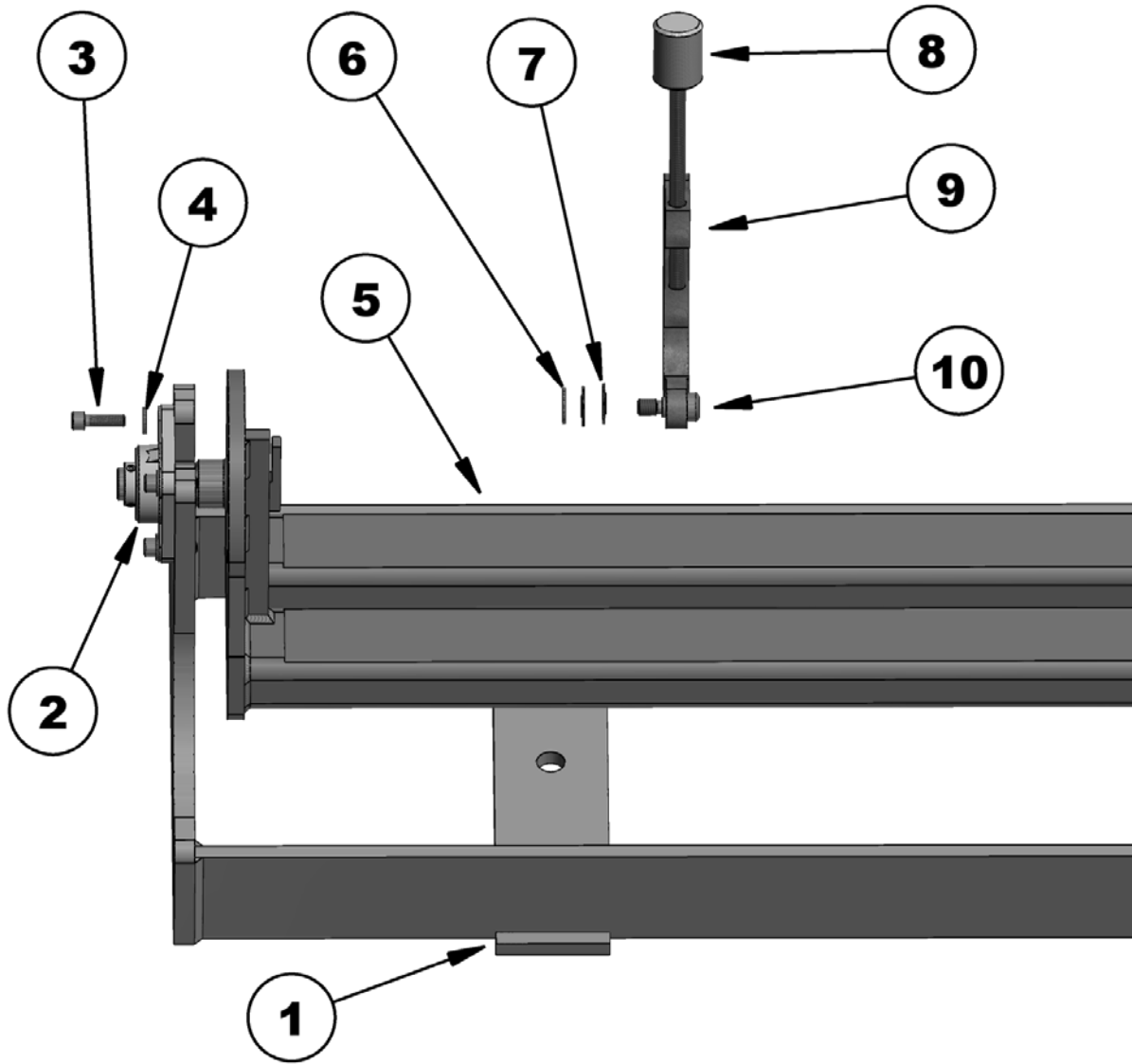
514-7C Manual Indexable Roll Over Fixture Parts

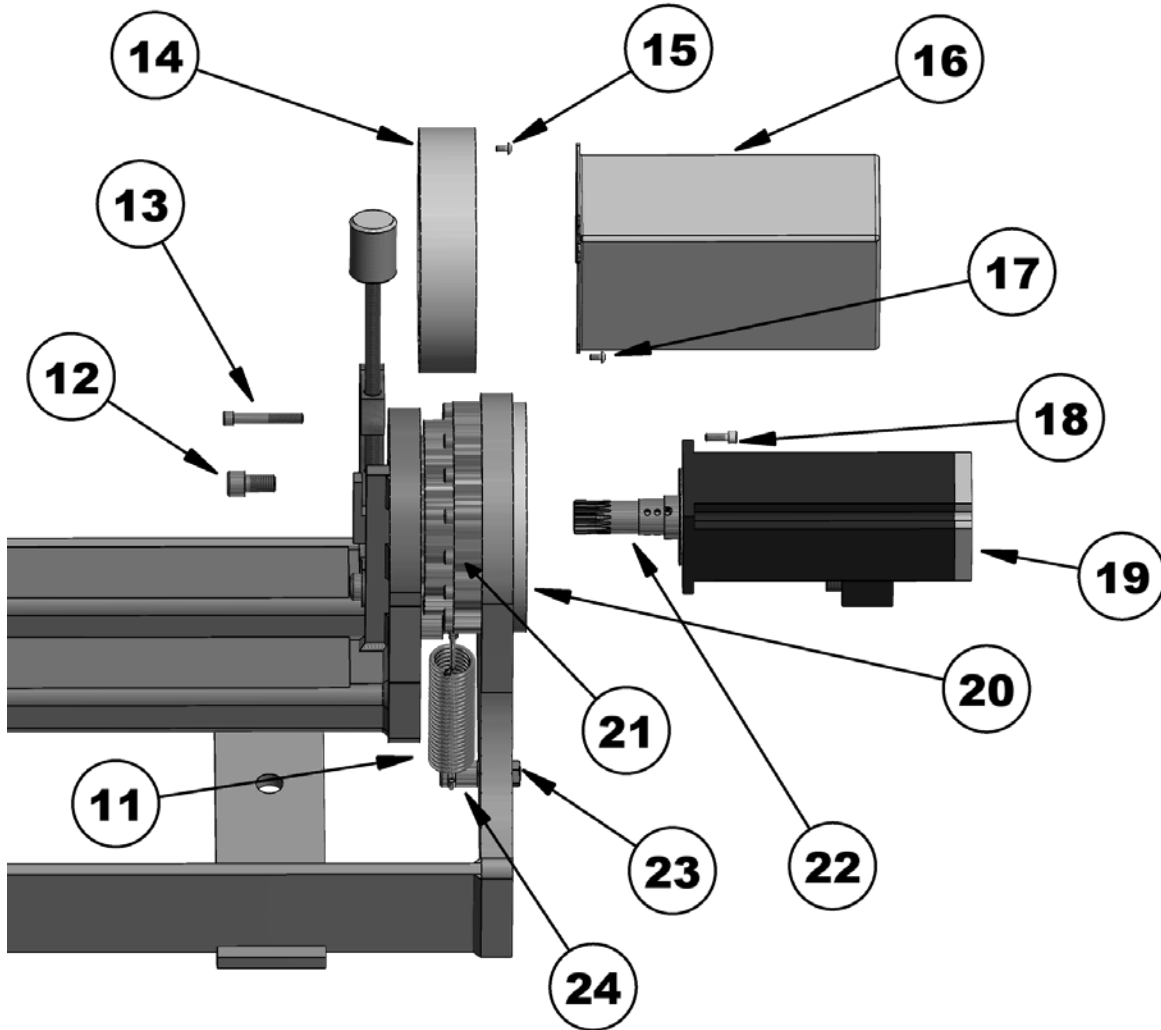


514-7C BLOCK HOLD DOWN FIXTURE ASSEMBLY - HONE			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	514-7-13	BLOCK, FLANGE, BLOCK HOLDDOWN FIXTURE
3	2	514-3-72A	PIN, SPRING RETAINER, BLOCK HOLD DOWN FIXTURE
4	1	514-3-34A	SPRING, EXTENSION - BLOCK HOLD DOWN FIXTURE
5	2	MF-165	1/2-13UNC HEX NUT
6	4	MF-39	Hexagon Socket Head Cap Screw
7	1	514-3-56A	INDEX PIN SUPPORT - BLOCK HOLD DOWN FIXTURE HONE
8	1	514-7-9B	INDEX PIN - BLOCK HOLD DOWN FIXTURE - HONE
9	1	MF-227A	Pin - Slotted Spring
10	1	MF-227B	Pin - Slotted Spring
11	1	514-3-58A	HANDLE, INDEX - BLOCK HOLD DOWN FIXTURE - HONE
12	1	514-3-59B	HANDLE, PIVOT ARM - BLOCK HOLD DOWN FIXTURE & V6/V8 AIR FIXTURE
13	1	514-3-70	SPRING, HANDLE RETURN
14	4	MF-17	Hexagon Socket Head Cap Screw
15	2	MF-226	Pin - Slotted Spring
16	1	MF-46A	Hexagon Socket Head Cap Screw
17	1	MF-166	5/8-11UNC HEX NUT
18	2	7223	CLAMP ASSEMBLY - MANUAL V6/V8 COMB. FIXTURE
19	4	514-7-21	Bellville Spring
20	2	514-7-22A	5/8 x 3/4" LG. SOCKET SHOULDER SCREW
22	2	514-7-10A	CLAMP ARM (MACHINING), BLOCK HOLD DOWN FIXTURE - HONE
23	2	514-7-1C	WASHER, HOLDDOWN - BLOCK HOLDDOWN FIXTURE - HONE
24	2	MF-32	S.H.C.S.3/8 - 16 UNC - 1 1/4
25	1	514-7-1E	MAIN FRAME REDESIGN (MACHINING)
26	1	514-7-3C	CRADLE (MACHINING), BLOCK HOLD DOWN FIXTURE
27	2	514-7-15	SUPPORT, BLOCK - BLOCK HOLD DOWN FIXTURE
28	1	514-3-59C	1/2-13UNC ACORN NUT
35	2	514-3-56B	TERCITE PAD

514-13-14 Automatic Programmable Roll Over Fixture Parts

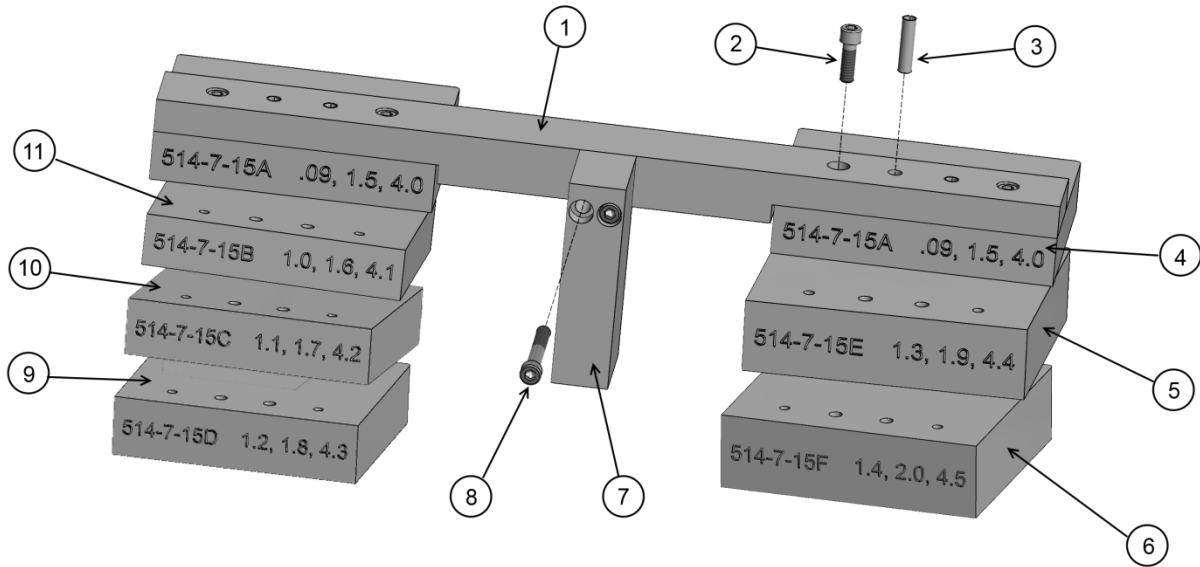






AUTOMATIC ROLL OVER FIXTURE PARTS			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	514-13-14A	BASE FRAME	1
2	514-13-14L	BEARING BLOCK	1
3		3/8-16X1 1/4 SHCS	4
4		3/8 FLAT WASHER	4
5	514-13-14C	CRADLE	1
6	514-7-20	THRUST WASHER	2
7	514-7-21	BELLEVILLE WASHER	4
8	7223	HOLD DOWN KNOB ASSY	2
9	514-7-10A	CLAMP ARM	2
10	514-7-22A	SHOULDER SCREW	2
11	514-3-34A	SPRING	1
12	650-4-51	M14 X 2 X 55 SHCS	2
13		5/16-18 X 2 1/4	16
14	514-13-14K	GEARBOX COVER	1
15		10-24 X 3/8 BHCS	7
16	514-13-14M	MOTOR COVER	1
17		10-24 X 3/8 BHCS	6
18		1/4-20 X 3/4 SHCS	4
19	650-3-93B	SERVO MOTOR	1
20	514-13-14J	ADAPTOR	1
21	5506C	GEARBOX ASSY	1
22	5506D	INPUT SHAFT	1
23		1/2-13 JAM NUT	2
24	514-3-72A	SPRING RETAINER PIN	2

Parallel Block Riser Sets



PARALLEL BLOCK RISER PARTS			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	514-7-15Q	PARALLEL CROSS SUPPORT	2
2	MF-14	1/4-20 X 3/4 SHCS	8
3	MF-226	1/4 X 1 ROLL PIN	8
4	514-7-15A	A SPACER	4
5	514-7-15E	E SPACER	4
6	514-7-15F	F SPACER	4
7	514-7-15R	PARALLEL NUB	2
8	MF-19	1/4-20 X 2 SHCS	4
9	514-7-15D	D SPACER	4
10	514-7-15C	C SPACER	4
11	514-7-15B	B SPACER	4

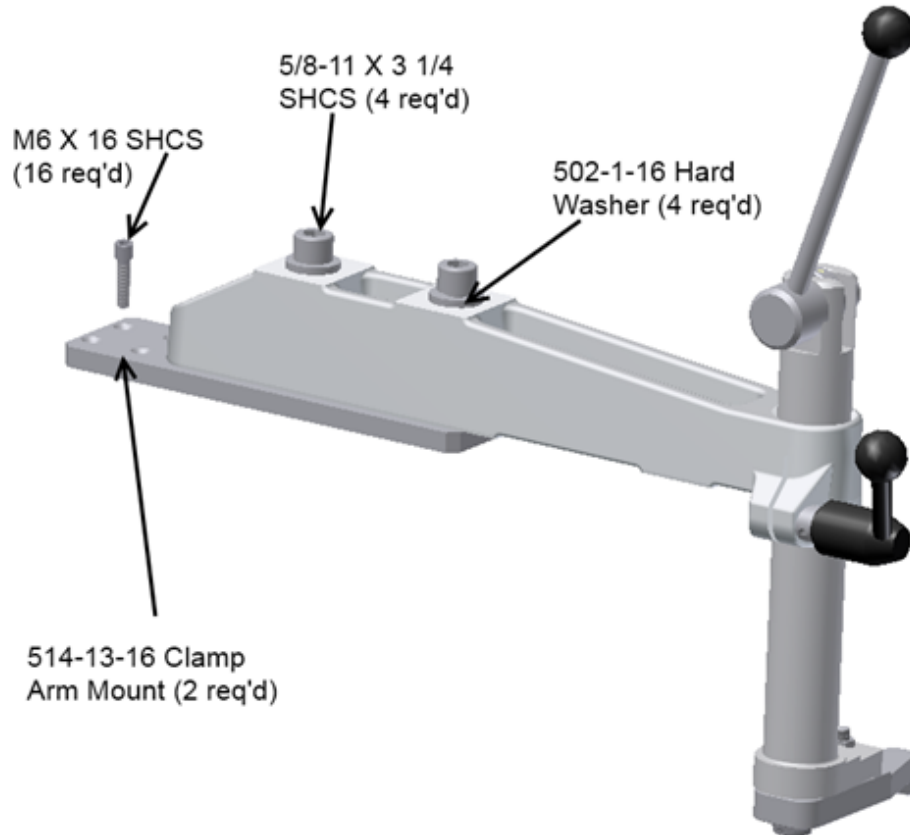
Splash Tray & Magnet

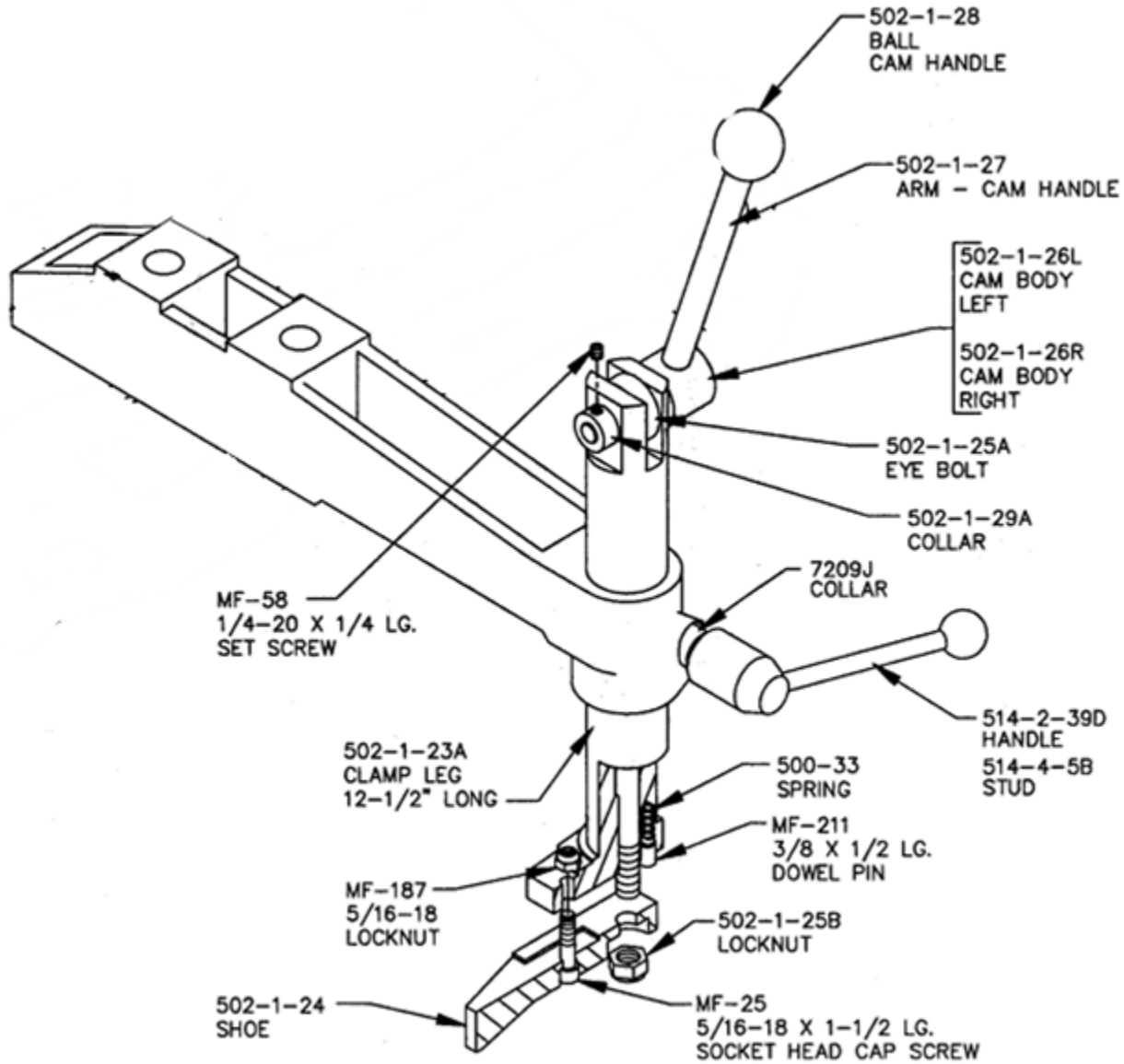
514-7-65S Splash Tray

514-7-65T Magnet Assembly

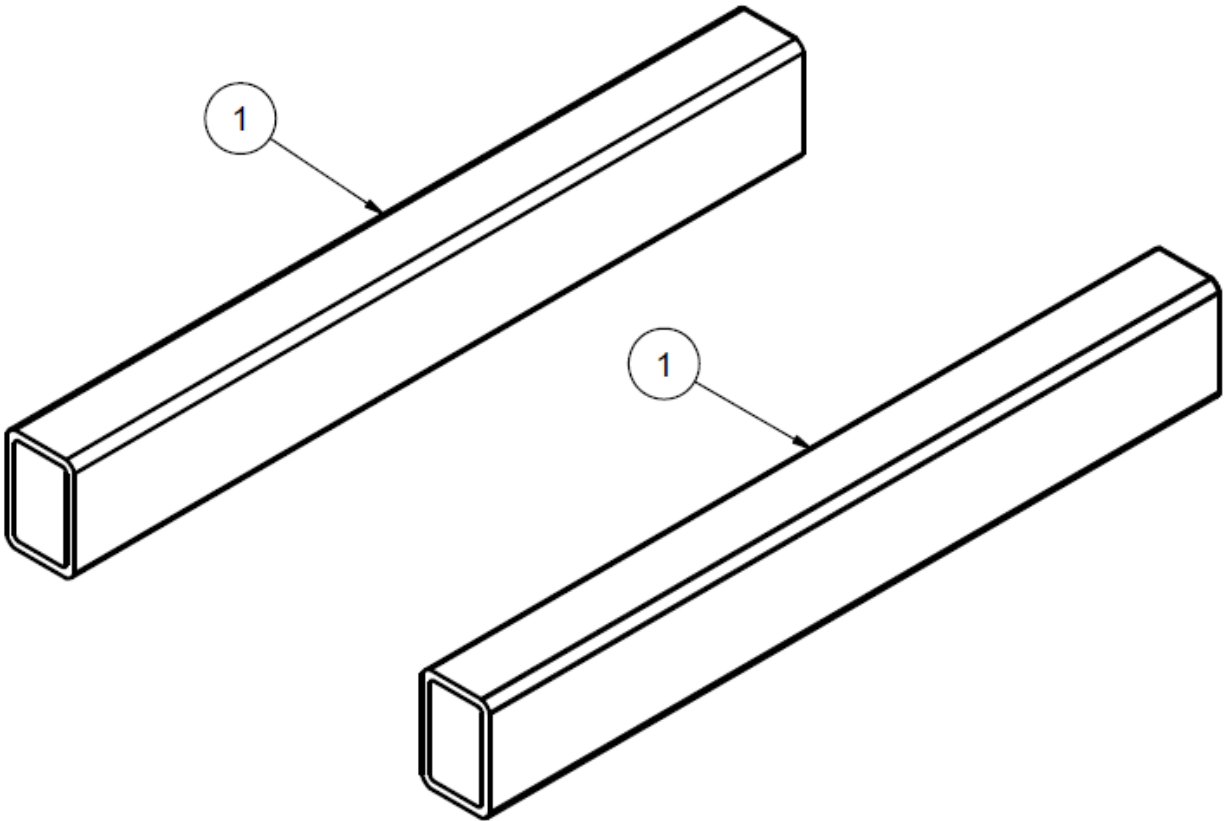


502-1-30H Clamp Arm Parts



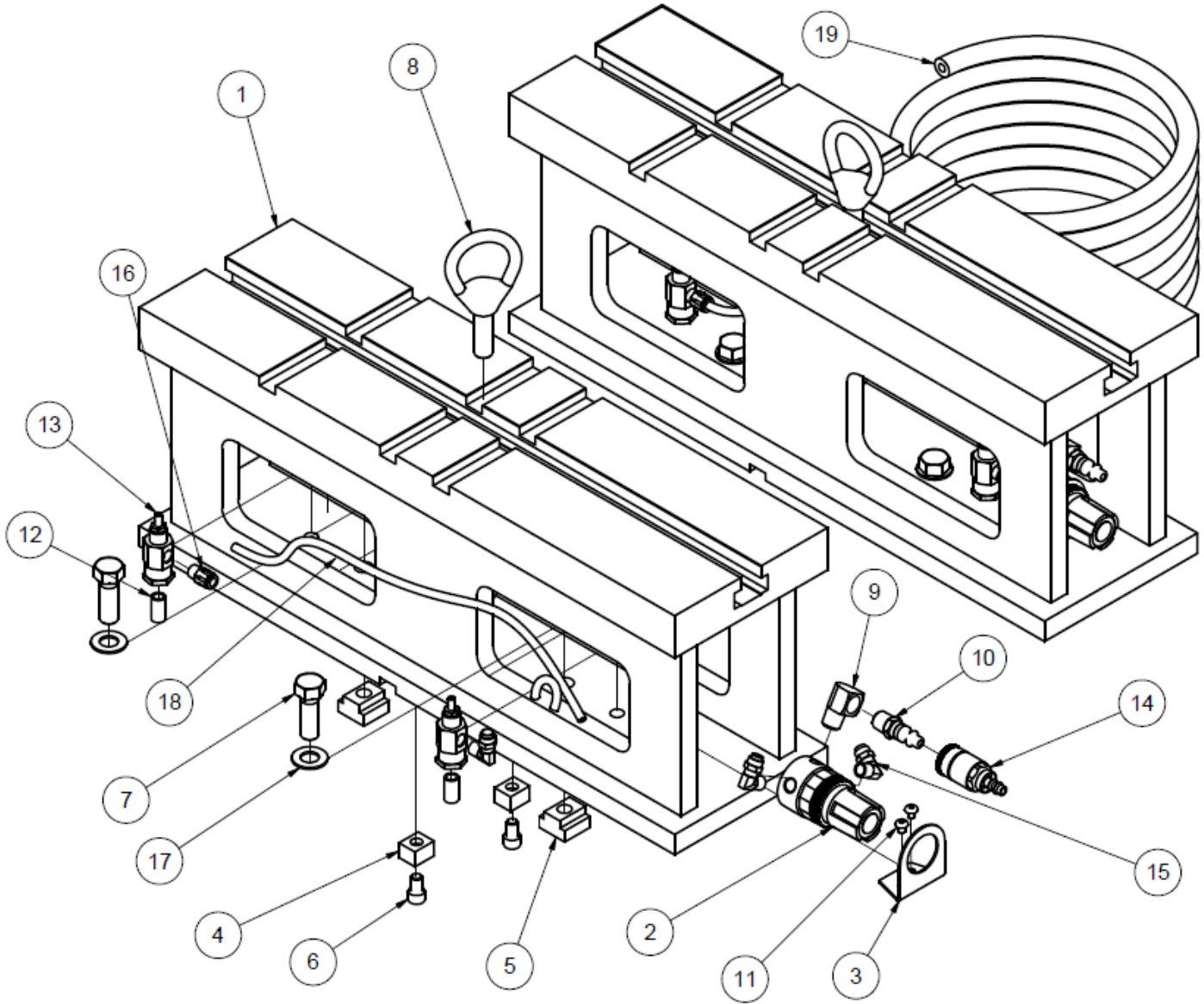


11115 2" (50mm) X 3" (75mm) Parallels



11115 2" x 3" PARALLEL SET			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	11115A	2" x 3" PARALLEL

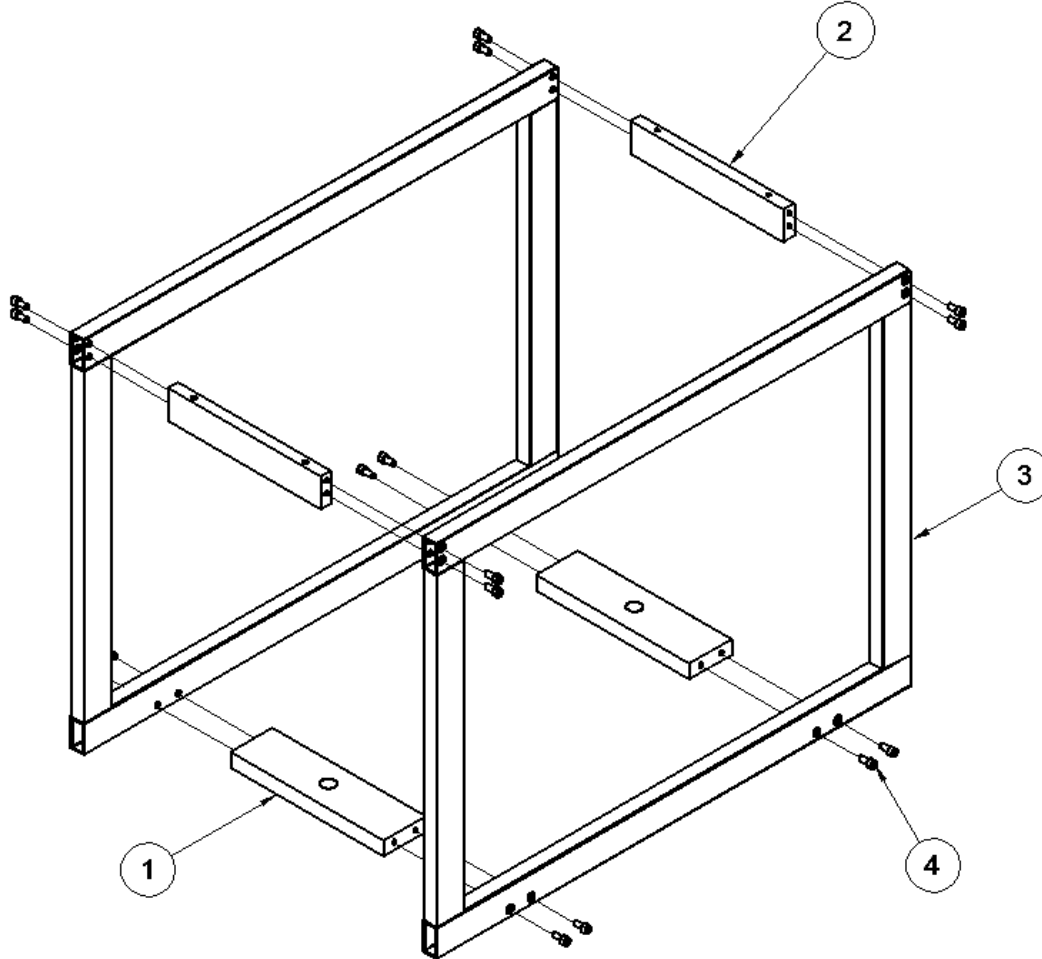
11112 Universal Heavy Duty T-Slot Parallels Parts



11112 SUPPORT PARALLEL ASSEMBLY 8"			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	11112A	SUPPORT PARALLEL 8" (MACHINING)
2	2	502-27-17	Regulator 0 - 60 PSI
3	2	502-27-17A	Regulator Bracket
4	4	650-3-9	Key
5	4	650-3-10	TN-5 T-Nut
6	4	MF-21A	5/16-18UNC x 1/2" LG. S.H.C.S.
7	4	MF-137A	1/2-13UNC x 1-1/2" LG. HEX BOLT
8	2	502-3-13	Lift Eye
9	2	502-11-17S	1/4 STREET ELL
10	2	502-11-16X	Quick Connect air Fitting Male
11	4	MF-87	10-24UNC x 1/4" LG. SOCKET BUTTONHEAD SCREW
12	4	502-11-17J	Nipple, Close 1/8" NPT
13	4	502-11-35A	Flo Control
14	1	502-11-16W	Quick connect air fitting female
15	6	502-11-16I	Elbow, Male 1/4 FPT x 1/8 PT
16	2	514-4-17W	FITTING 1/8NPT x 1/4" POLY STRAIGHT
17	4	MF-180	1/2" FLAT WASHER
18	3 FT.	502-11-15	1/4" OD BLACK POLYFLO
19	15 FT.	502-1-98	1/4" AIR HOSE

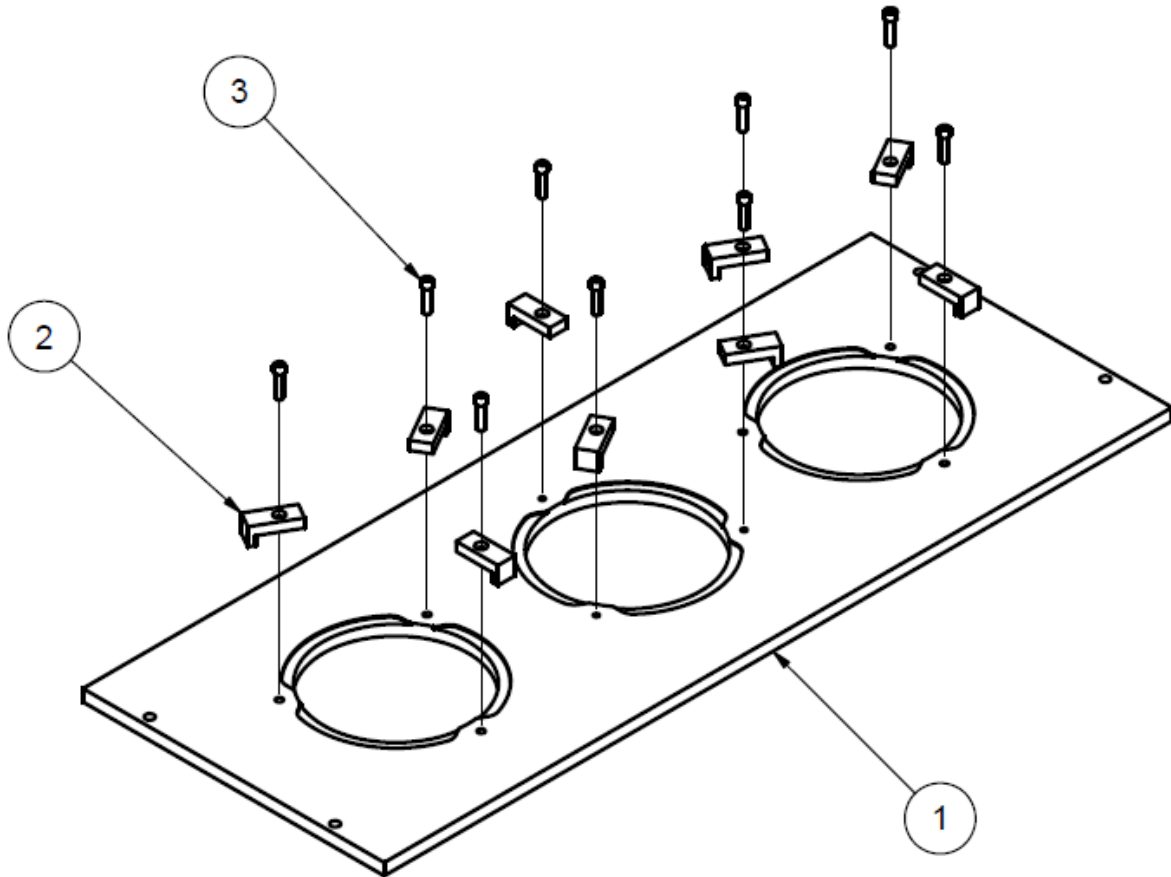
CYLINDER LINER FIXTURES

514-11-1 Cylinder Liner Honing Fixture Parts



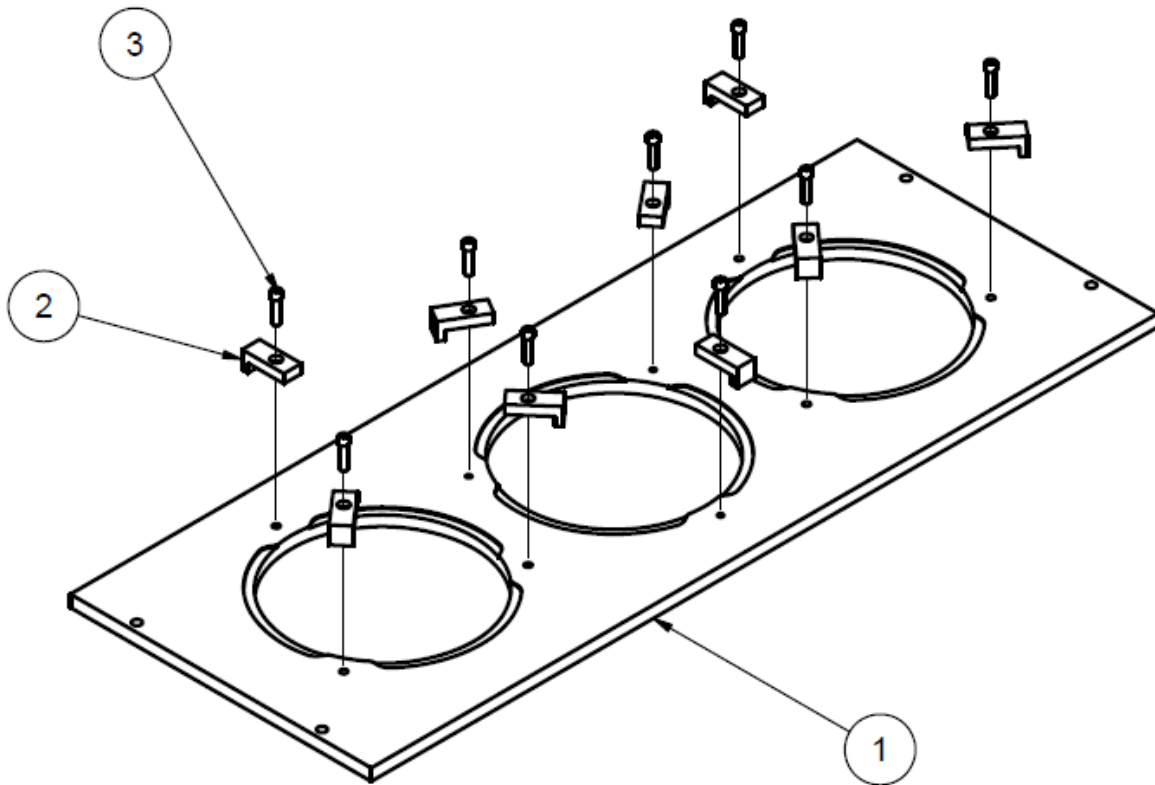
514-11-1A MAIN FRAME ASSEMBLY, CAT CYLINDER SLEEVE HONE FIXTURE			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	514-11-1E	LOWER CROSS BAR, CAT CYLINDER SLEEVE HONE FIXTURE
2	2	514-11-1D	UPPER CROSS BAR, CAT CYLINDER SLEEVE HONE FIXTURE
3	2	514-11-1B	FRONT/REAR FRAME (MACHINING), CAT CYLINDER SLEEVE HONE FIXTURE
4	16	MF-21	S.H.C.S. 5/16 - 18 UNC - 5/8

514-11-2 CAT 3400 Fixture Plate Assembly



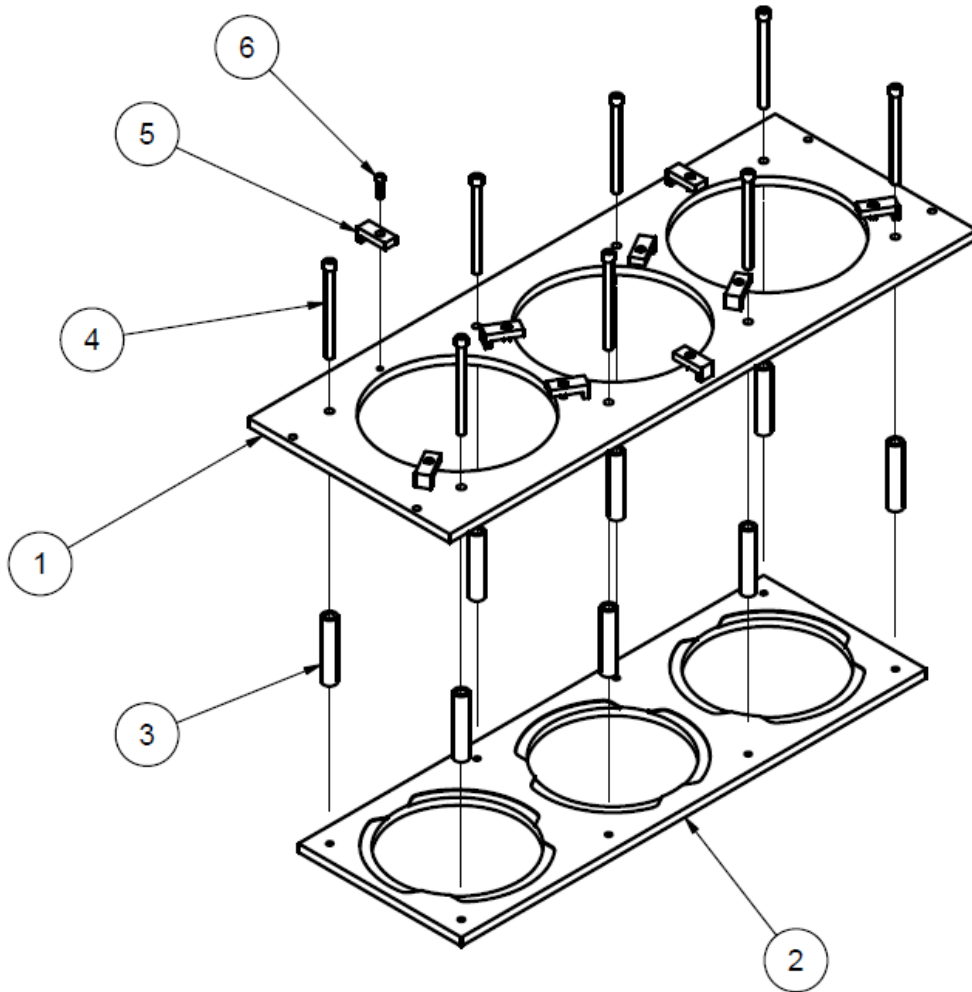
514-11-2 FIXTURE PLATE ASSEMBLY, CAT 3400			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	514-11-2A	FIXTURE PLATE - CAT 3400 SLEEVE
2	9	514-11-2C	CLAMP
3	9	MF-15	Hexagon Socket Head Cap Screw

514-11-3 CAT 3500 Fixture Plate Assembly



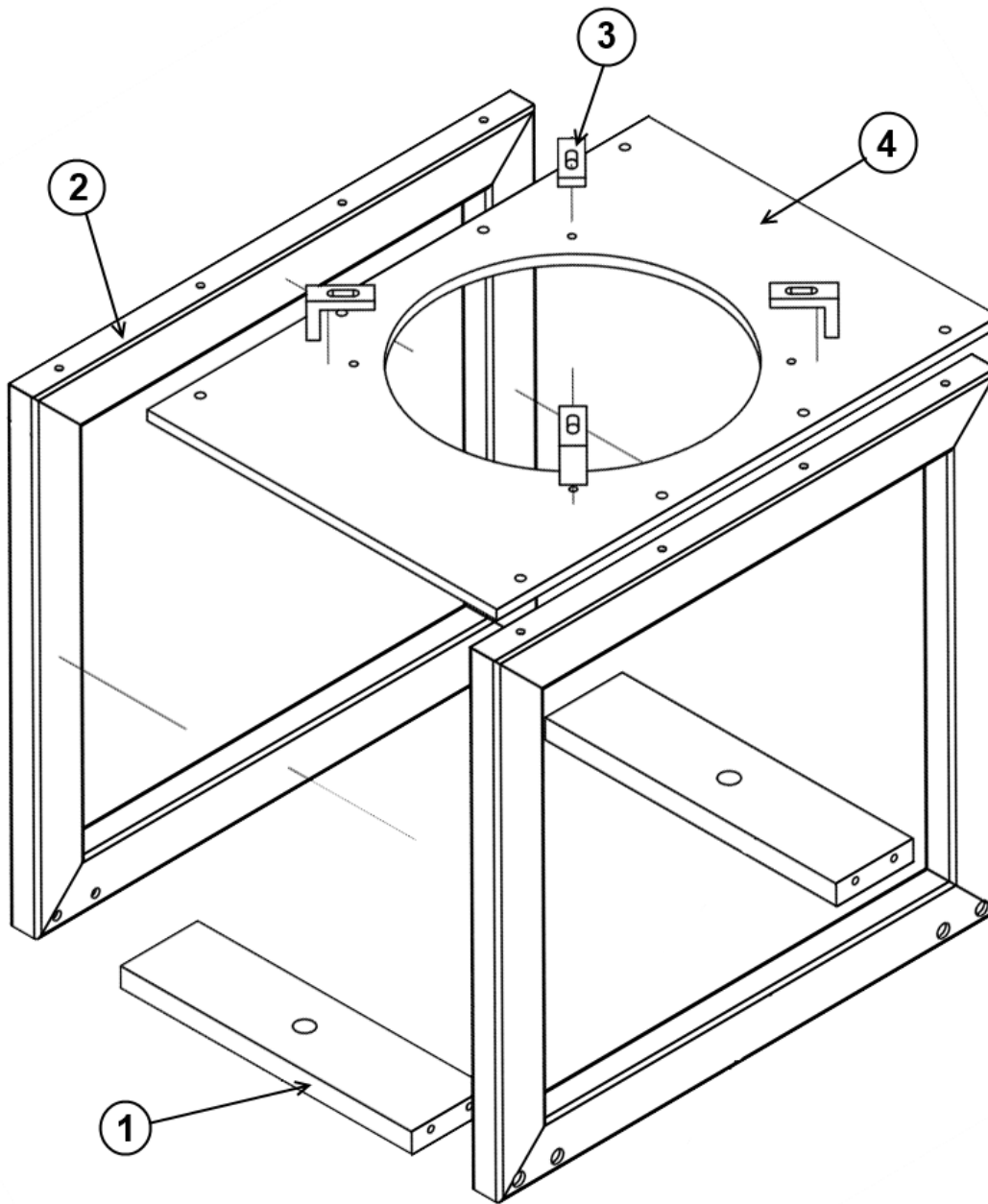
514-11-3 CAT 3500 FIXTURE PLATE ASSEMBLY			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	514-11-3A	FIXTURE PLATE (MACHINING) - CAT 3500 SLEEVE
2	9	514-11-2C	CLAMP
3	9	MF-15	Hexagon Socket Head Cap Screw

514-11-4 CAT C175 Fixture Plate Assembly



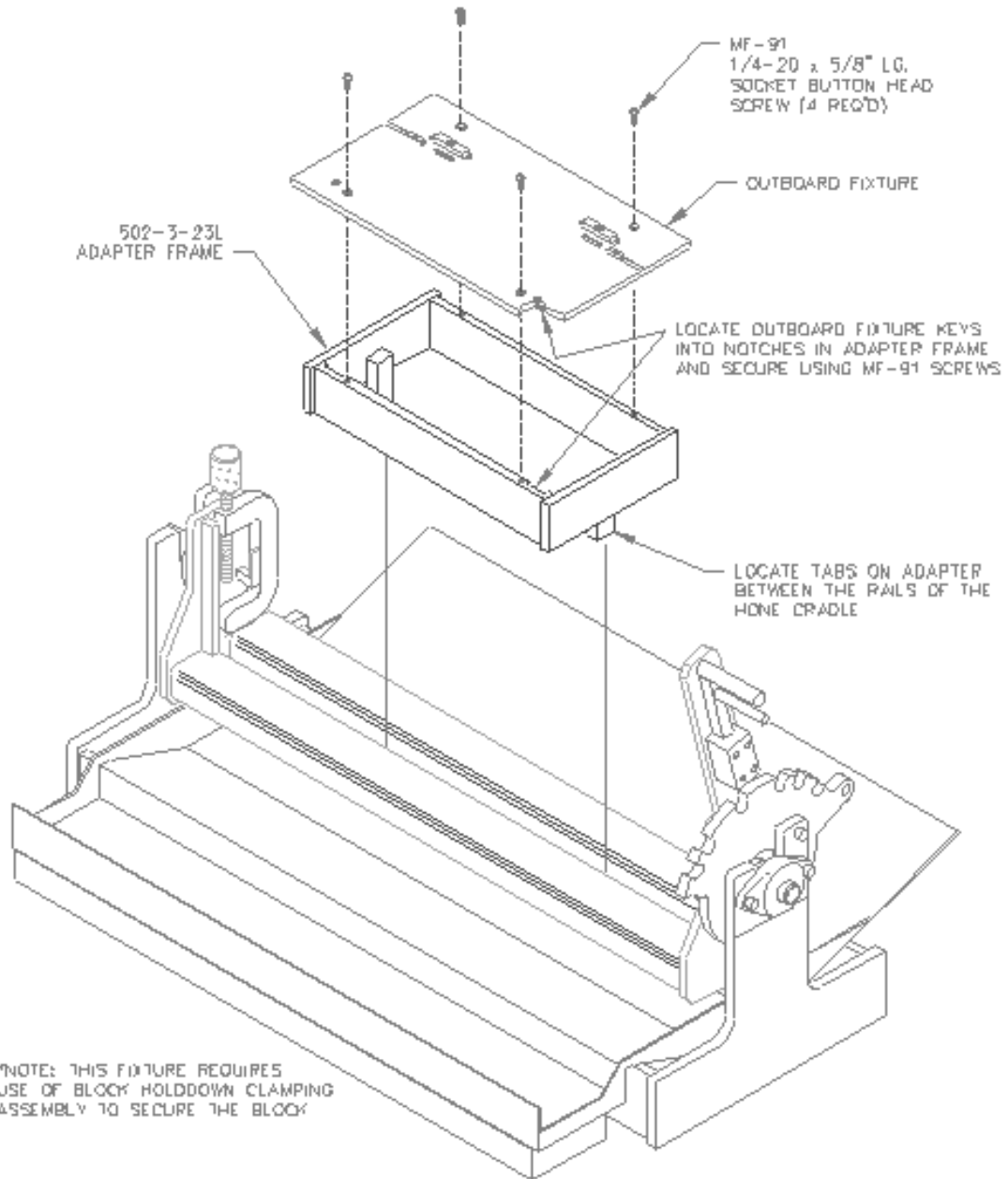
514-11-4 CAT C175 FIXTURE PLATE ASSEMBLY			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	514-11-4A	FIXTURE PLATE TOP - CAT C175 SLEEVE
2	1	514-11-4C	UPPER PLATE, CAT C175 FIXTURE, CAT CYLINDER SLEEVE HONE FIXTURE
3	8	514-11-4E	SPACER, CAT C175 SLEEVE FIXTURE
4	8	MF-38	3/8-16UNC x 5" LG. S.H.C.S.
5	9	514-11-2C	CLAMP
6	9	MF-15	1/4-20UNC x 1" LG. S.H.C.S.

514-13-30 Fixture Parts

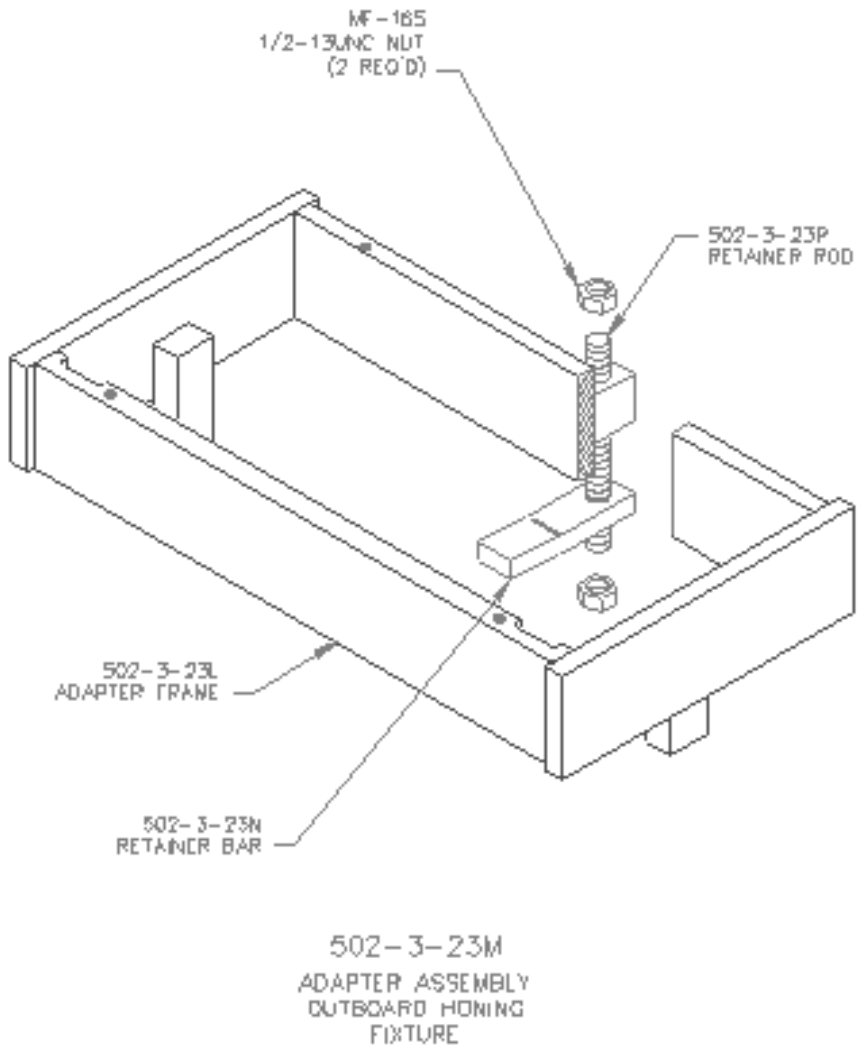


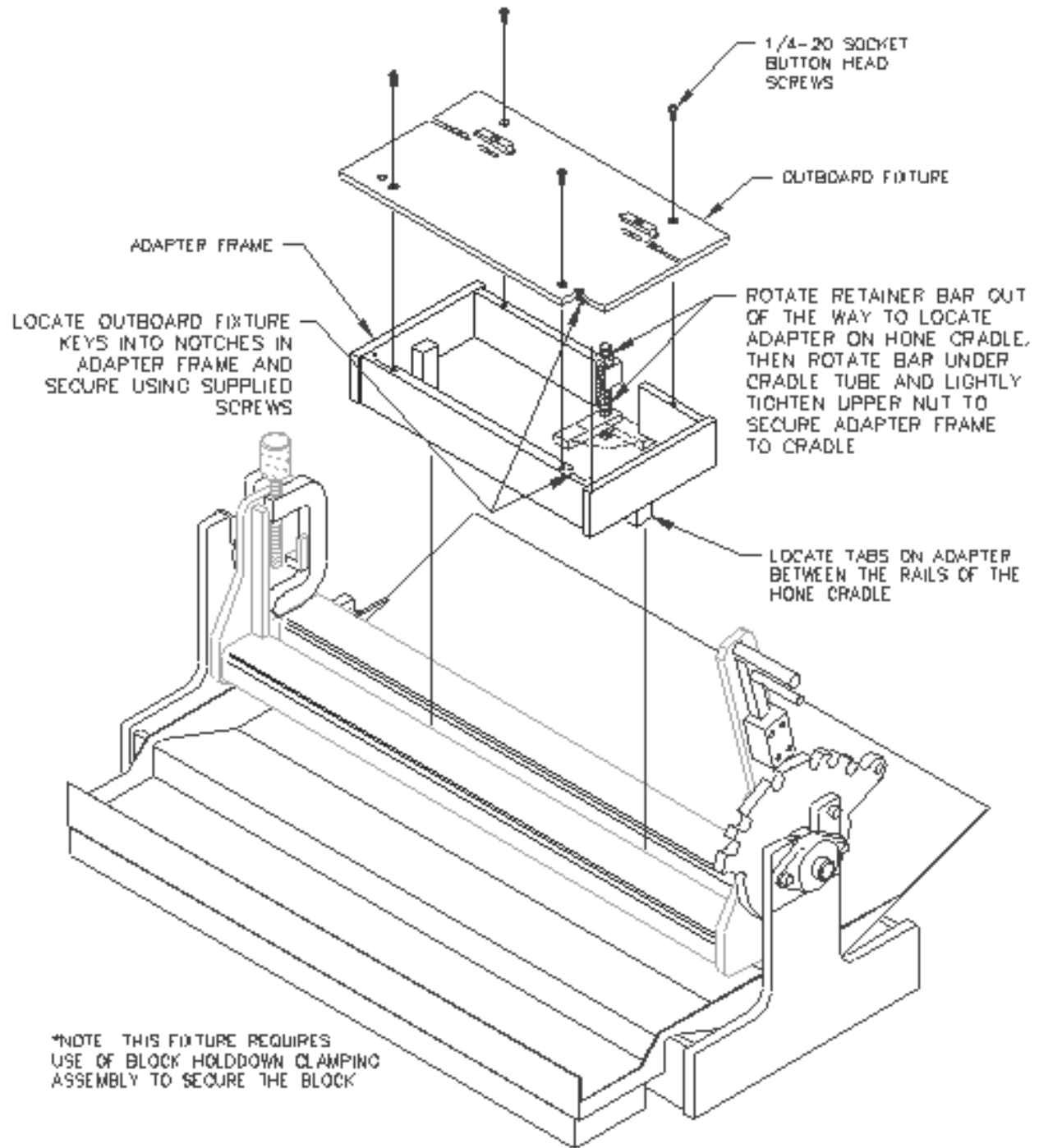
514-13-30 CAT 3600 SLEEVE FIXTURE			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	514-13-30E	BOTTOM MOUNT	2
2	514-13-30D	SIDE	2
3	514-13-30J	TOE CLAMP	4
4	514-13-30F	TOP PLATE	1

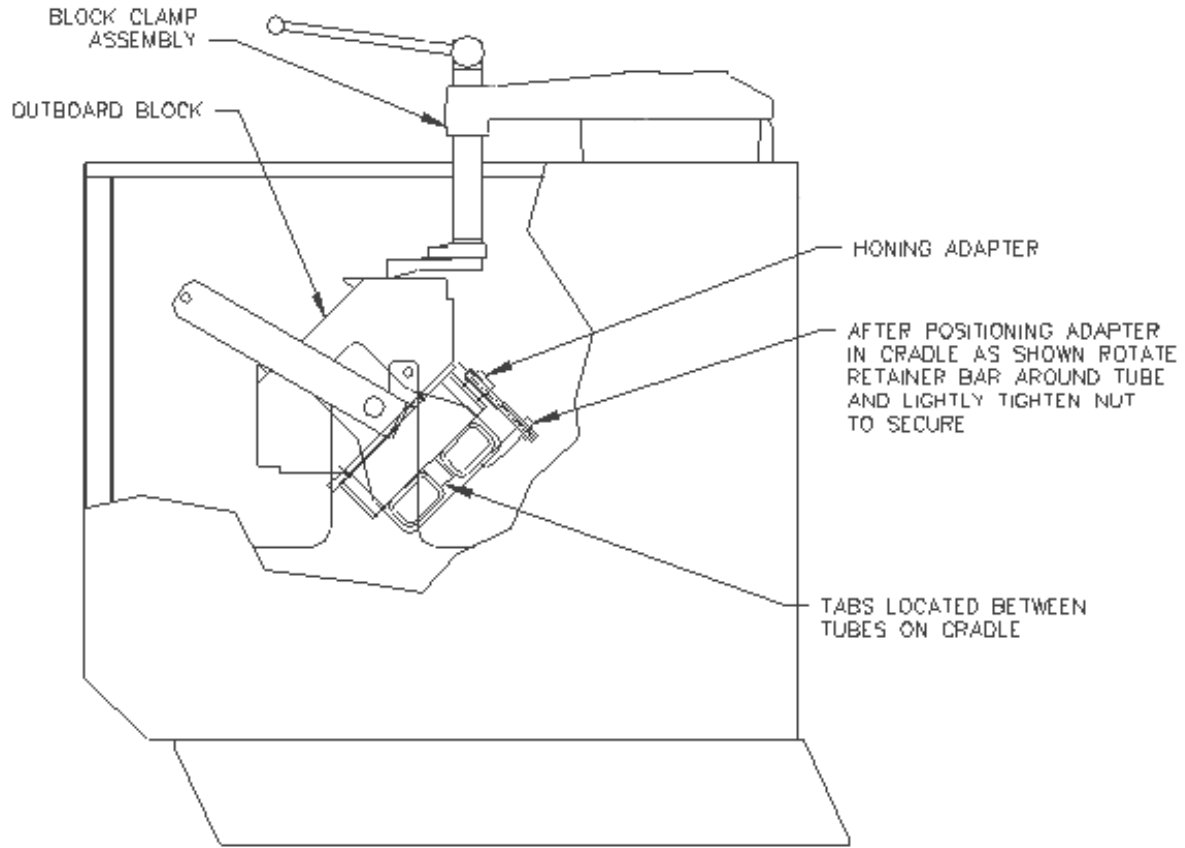
502-3-23M Adapter Frame Parts

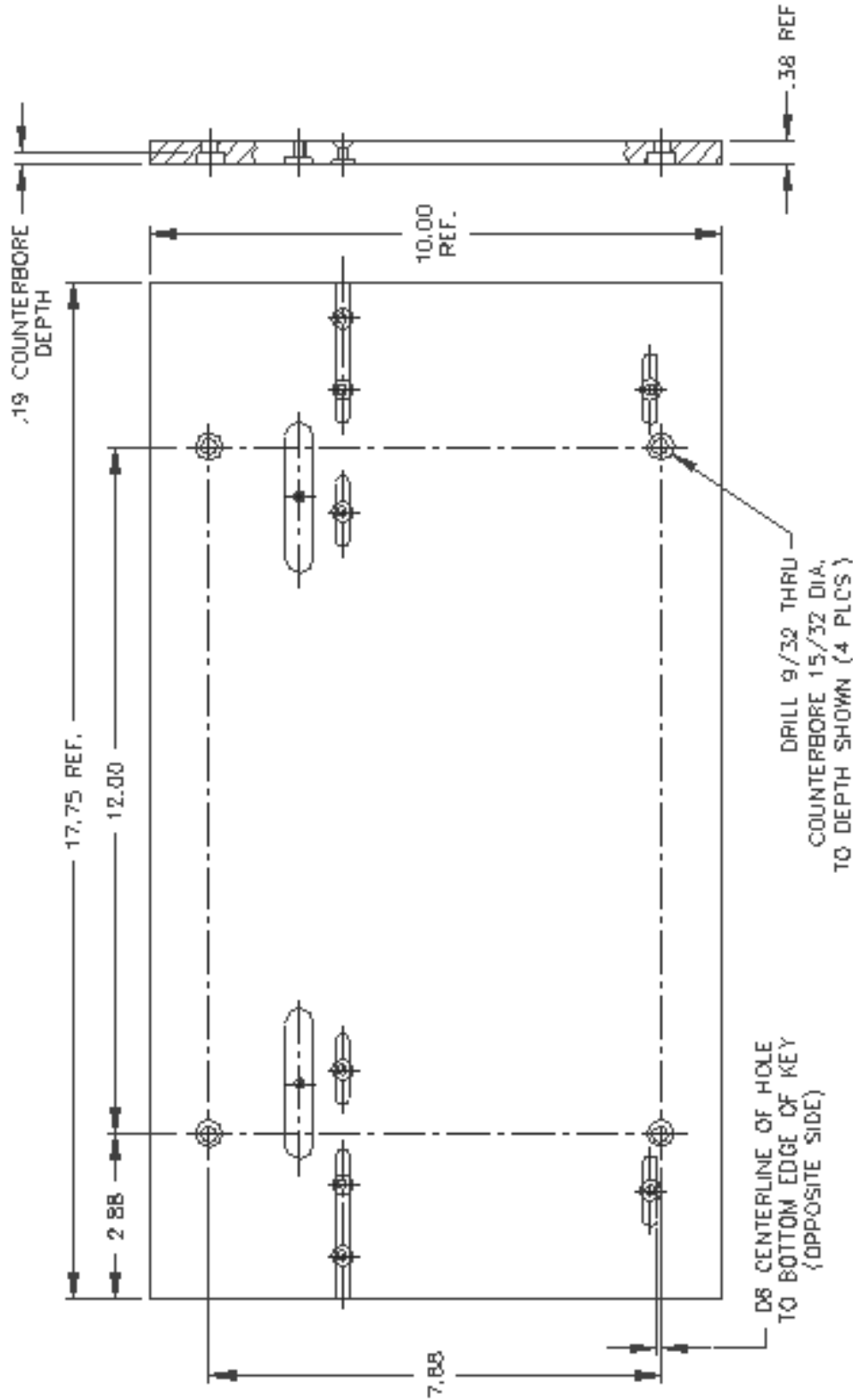


502-3-23M
OUTBOARD HONING ADAPTER ASSEMBLY

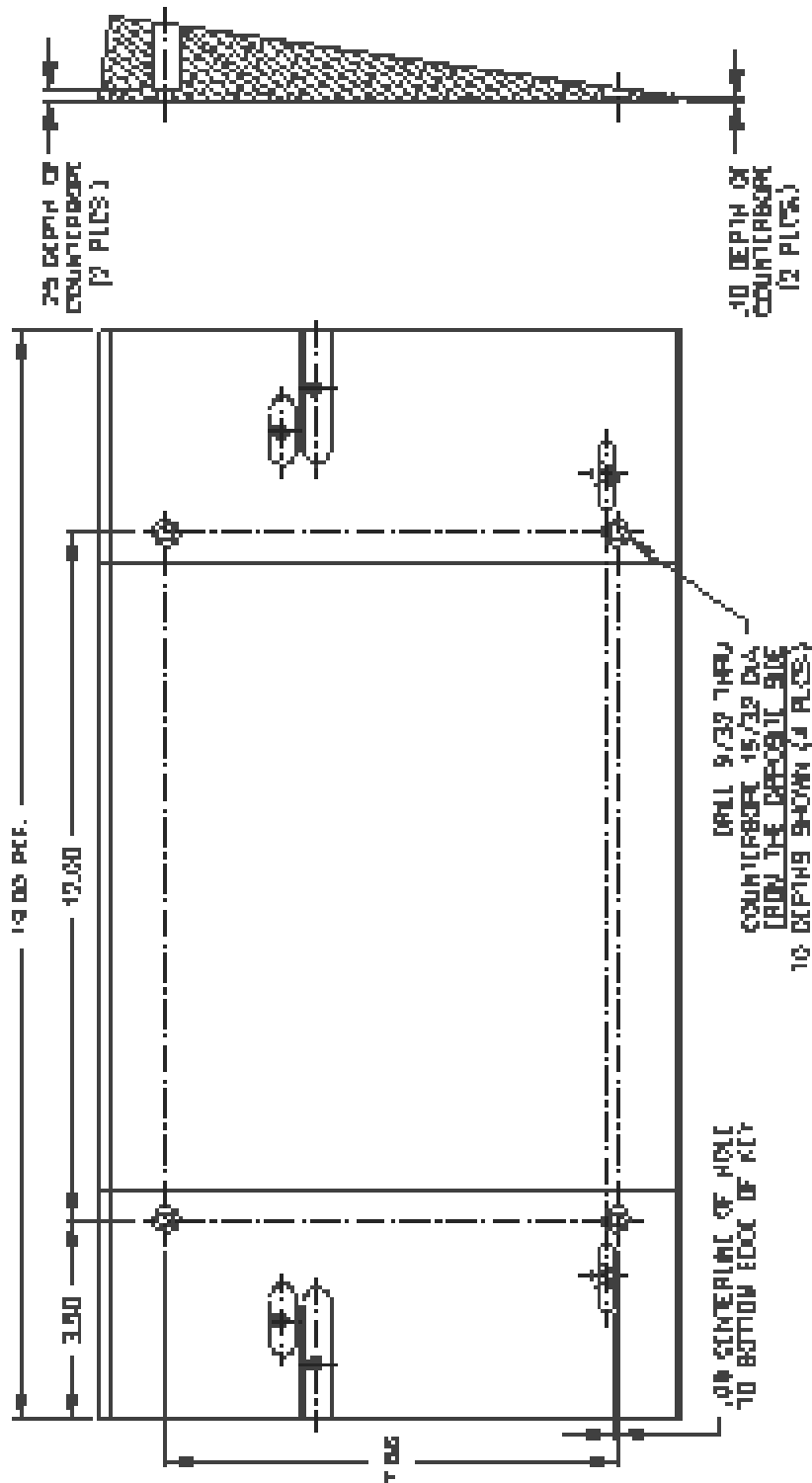








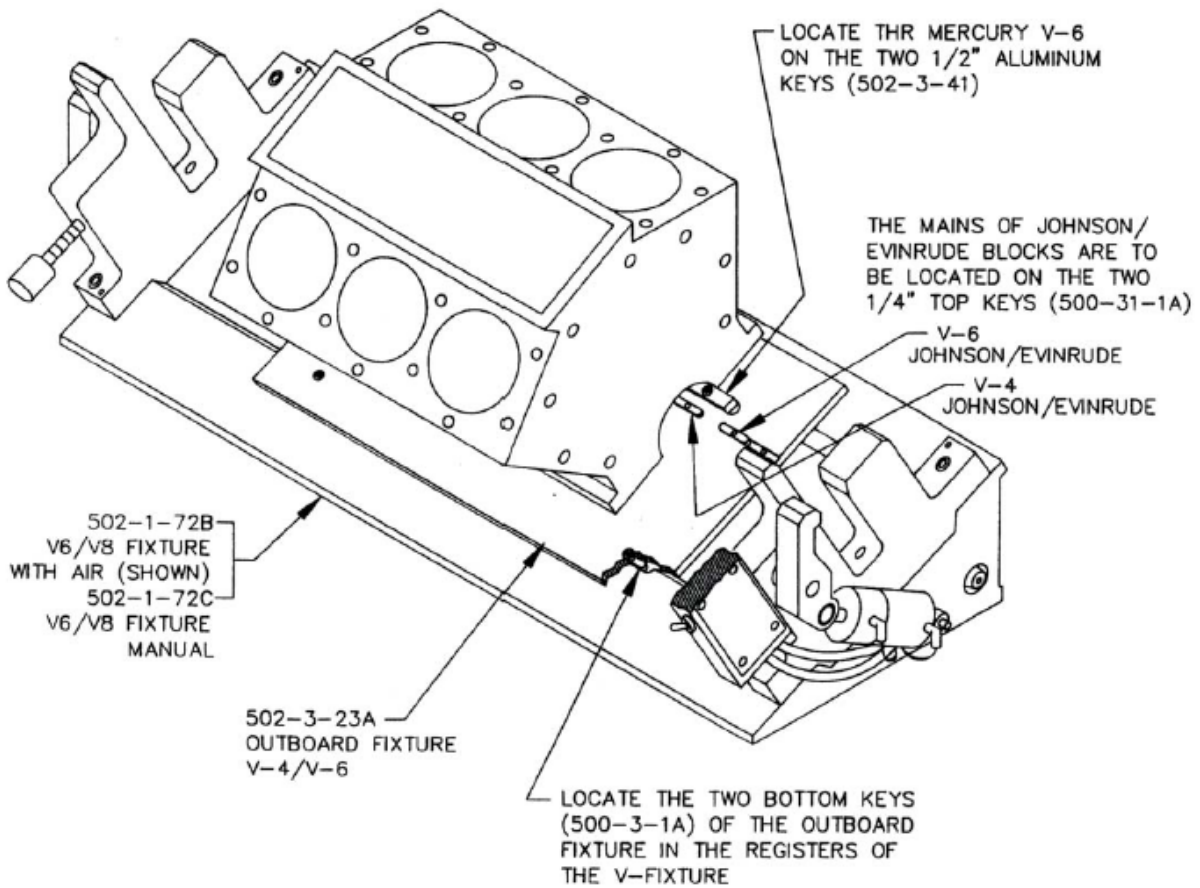
MODIFICATION OF 502-3-23 OUTBOARD FIXTURE
FOR HONING ADAPTER



MODIFICATION OF 507-3-23C OUTBOARD FIXTURE FOR HONING ADAPTER

502-3-23 Outboard Marine Fixture Parts

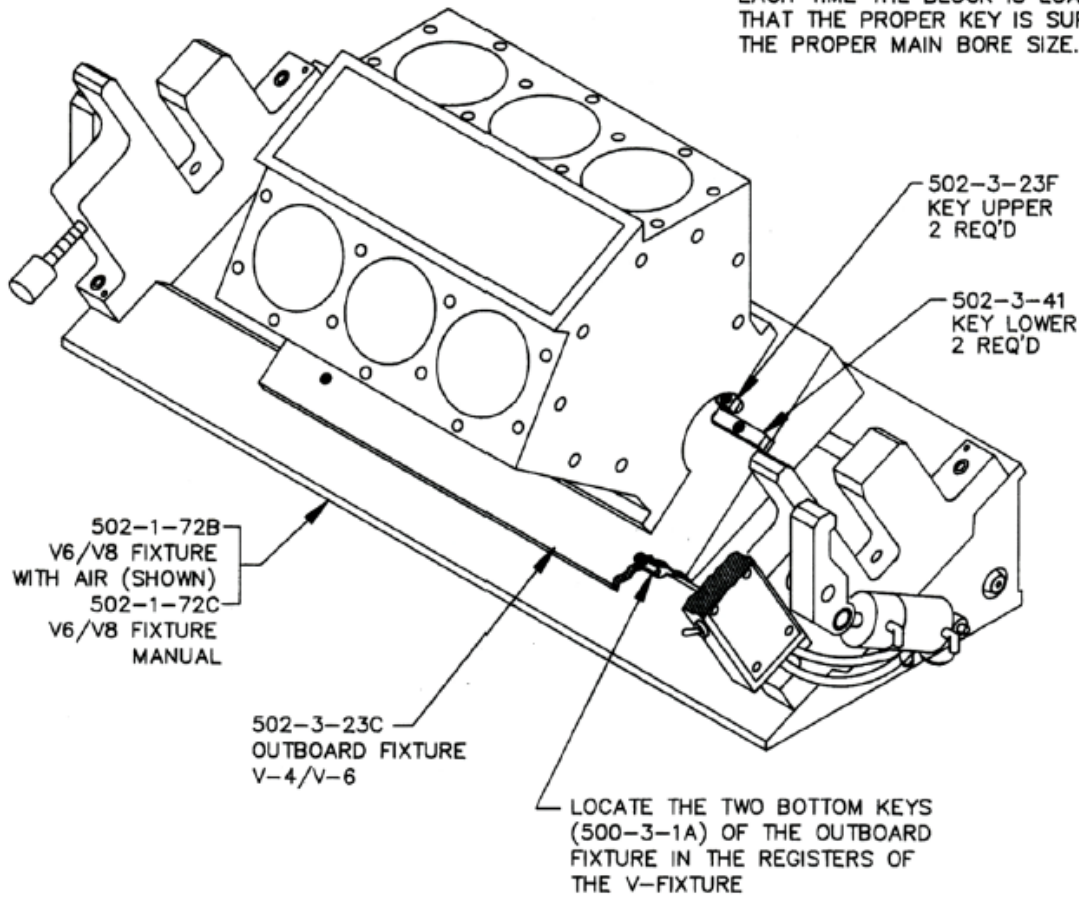
V4/V6 JOHNSON, EVINRUDE, V-6 MERCURY OUTBOARD FIXTURE INSTRUCTIONS 502-3-23



502-3-23C Outboard Marine Fixture Parts

76" YAMAHA
OUTBOARD FIXTURE INSTRUCTIONS
502-3-23C

ONE END OF THIS BLOCK HAS A SMALLER DIAMETER MAIN BORE THAN THE OTHER END. THE LARGER MAIN BORE RESTS ON THE HIGHER KEY. THE SMALLER MAIN BORE RESTS ON LOWER KEY AT THE OTHER END, MAKING THE BLOCK LEVEL. CHECK EACH TIME THE BLOCK IS LOADED THAT THE PROPER KEY IS SUPPORTING THE PROPER MAIN BORE SIZE.



OPTIONAL COOLANT AND FILTER EQUIPMENT

514-4-71C Synthetic coolant

For use with diamond stones
5 gal (20 liter) (mix with water 20:1)



514-4-71D Coolant Refractor

Sold as complete set only



514-7-66D Filter paper

For standard coolant system (minimum order of 25)



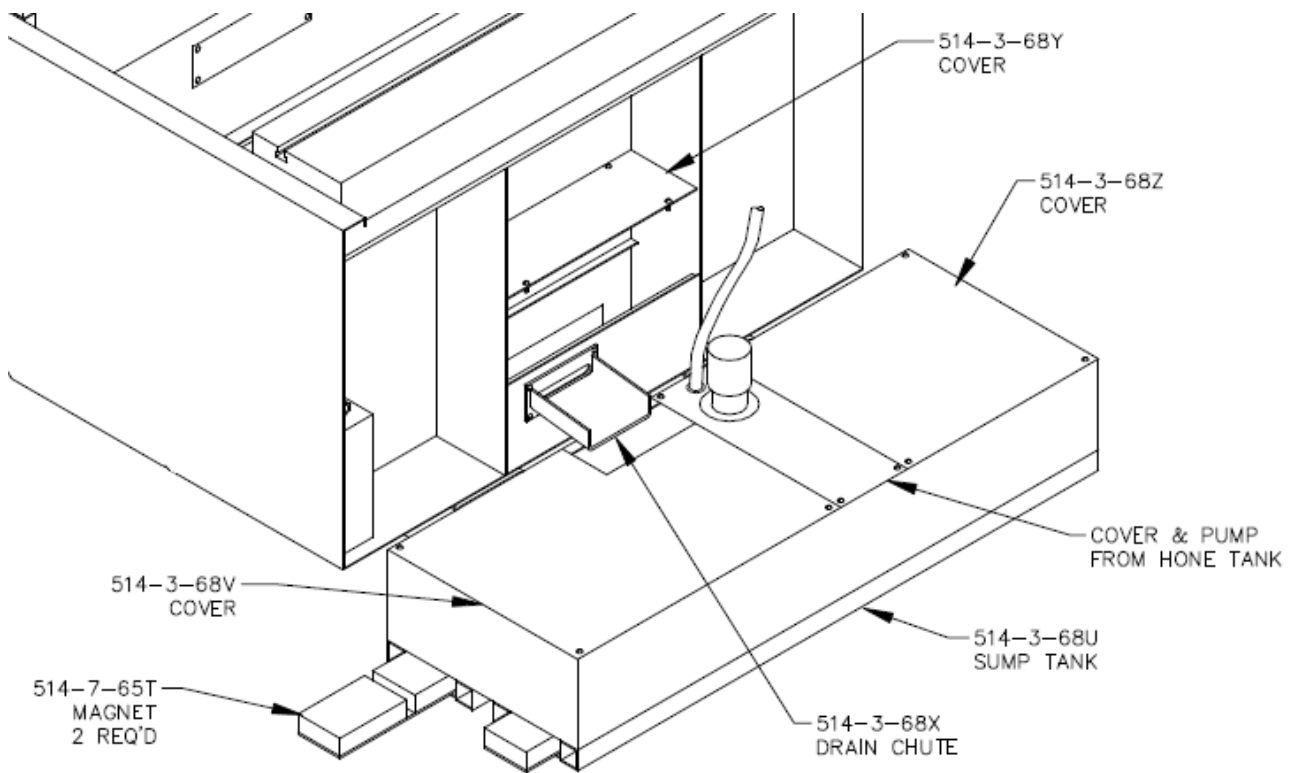
514-2-39P Filter Cartridge 10 micron

514-2-39Q Filter Cartridge 20 micron

514-2-39Z Filter Cartridge 150 micron



514-3-68W External Coolant Tank Parts



514-10-20 MEDIUM HONE HEAD PARTS LIST			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	514-10-20A	DRIVE SHAFT	1
2	514-13-49	KWIK SWITCH ADAPTOR	1
3	514-10-6	PIVOT BLOCK	1
4	514-7-82F	THRUST BEARING	1
5	514-10-2A	CONE ROD	1
6	514-10-1A	BODY	1
8	514-7-81A	DRIVE CONNECTOR	1
9	514-10-20B	ADJUSTING SHAFT	1
10	514-6-44	DRIVE COUPLER	1
11	514-10-5A	ADJUSTING NUT UNIVERSAL ASSEMBLY	1
15	100-19	THRUST WASHER	1
17	514-5-72A	SPRING	1
19	514-10-10	PIVOT SCREW	4
22	514-10-9	BUMPER	1

514-10-13A Stone holder set

2.12 - 2.23" (53.75 – 56.54mm), set of 4
with 0.200" height stone set.

2.34 – 2.45" (59.44 – 62.23mm), set of 4
with 0.312" height stone set.



514-10-13B Stone holder set

2.32 - 2.43" (58.83 – 61.62mm), set of 4
with 0.200" height stone set.

2.54 – 2.65" (64.52 – 67.31mm), set of 4
with 0.312" height stone set.



514-10-13C Stone holder set

2.52 - 2.63" (63.91 – 66.70mm), set of 4
with 0.200" height stone set.

2.74 – 2.85" (69.60 – 72.39mm), set of 4
with 0.312" height stone set.



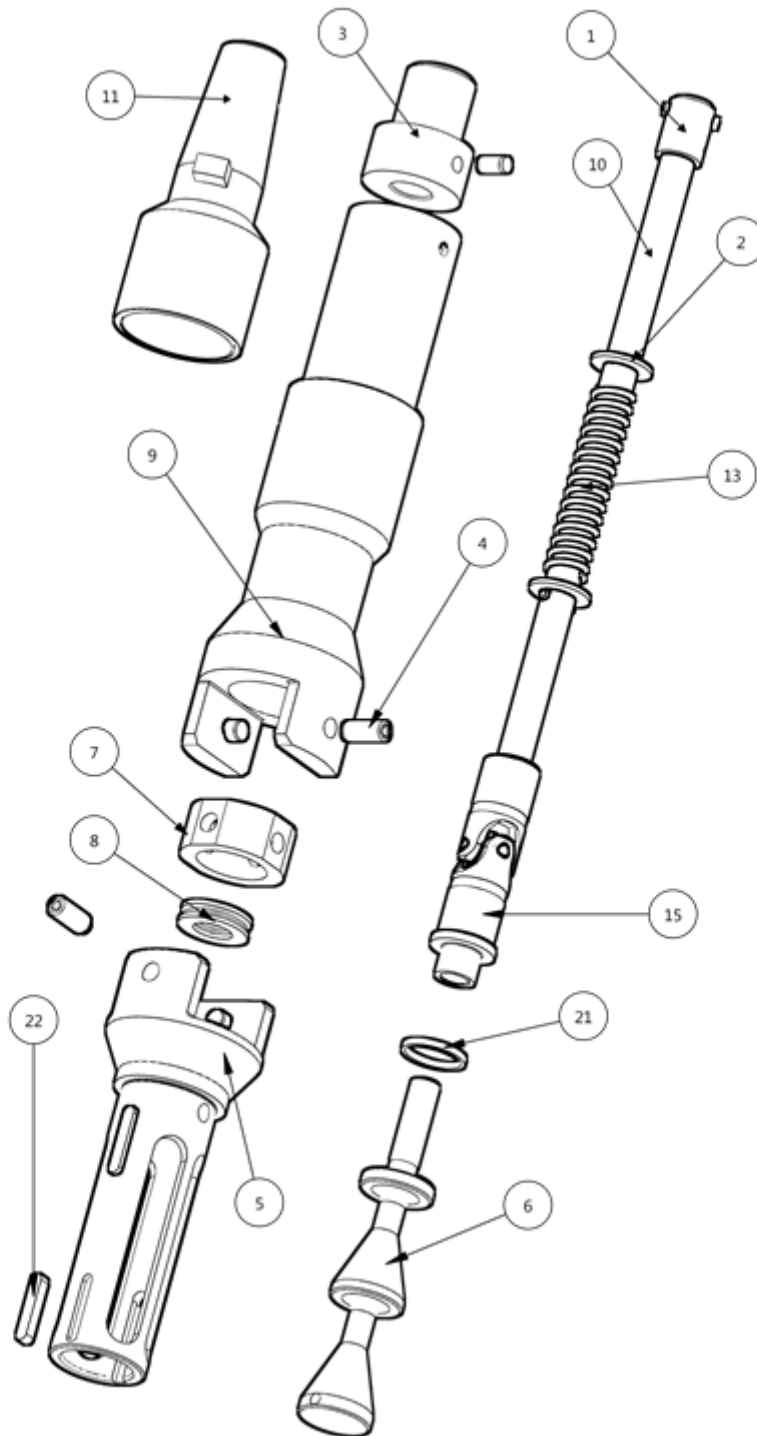
514-10-13D Stone holder set

2.72 – 2.83" (68.99 – 71.78mm), set of 4
with 0.200" height stone set.

2.94 – 3.05" (74.68 – 77.47mm), set of 4
with 0.312" height stone set.

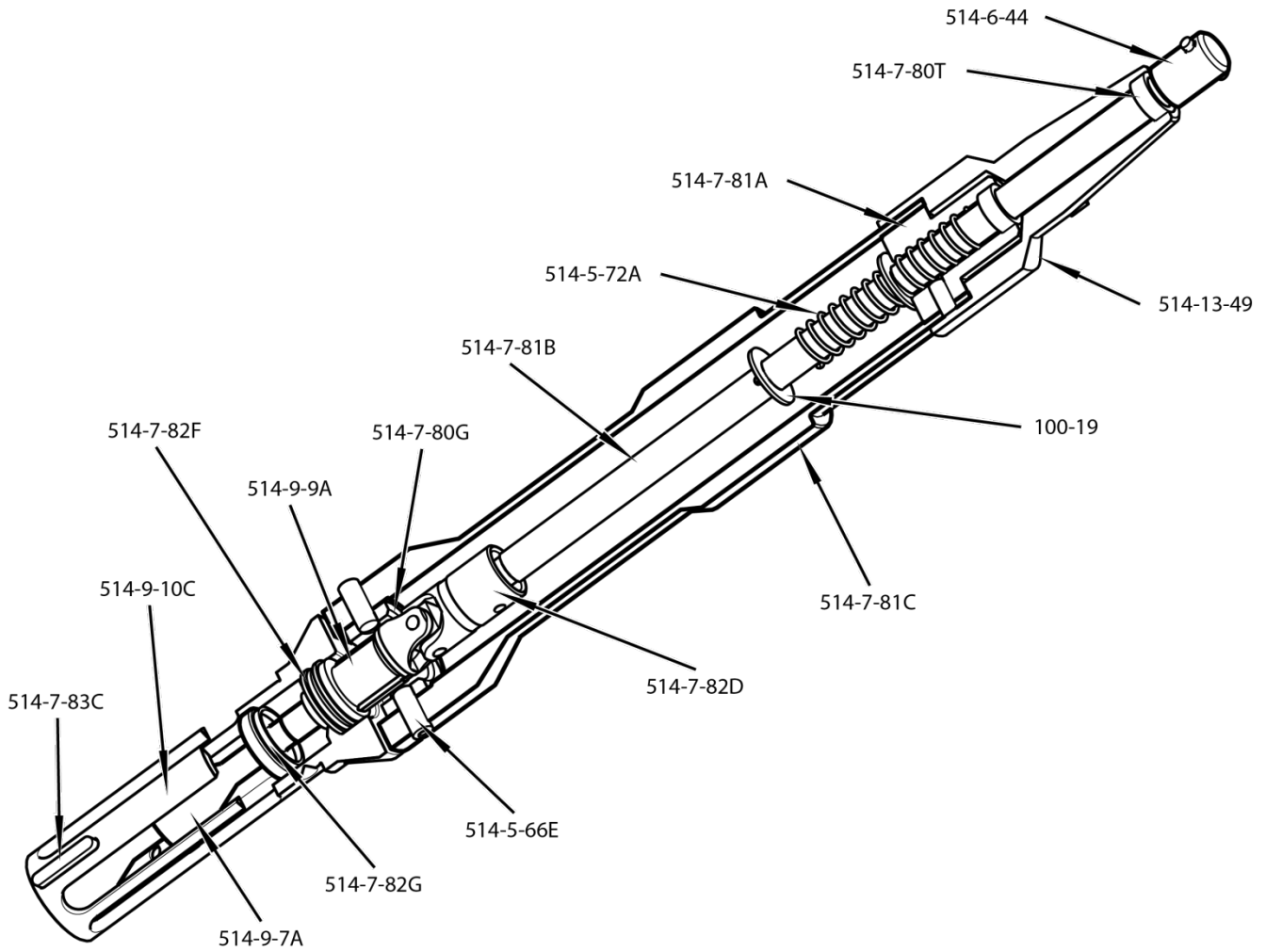


514-9G Large Precision Heavy Duty Hone Head Parts



Item	Part Number	Description	Item QTY
1	514-6-44	DRIVEN COUPLING	1
2	100-19	WASHER	2
3	514-7-81A	DRIVE CONNECTOR	1
4	514-5-66E	PIN, PIVOT (PULL OUT STYLE)	4
5	514-9-10A	BODY, HEAVY DUTY HONE HEAD	1
6	514-9-7A	CONE ROD	1
7	514-7-80G	PIVOT BLOCK	1
8	514-7-82F	THRUST WASHER	1
9	514-7-81C	H75 DRIVE SHAFT	1
10	514-7-81B	ADJUSTING SHAFT	1
11	514-13-49	KWIK SWITCH ADAPTOR	1
13	514-5-72A	SPRING COMPRESSION	1
15	514-9-8A	UNIVERSAL NUT ASSEMBLY	2
21	514-7-82G	BUMPER	1
22	514-7-83C	LOCATOR KEY	2

514-9K 6 Stone Hone Head Parts



514-9-4A Sleeve assembly
2.840" - 3.880" (72.14 - 98.55mm)



514-9-4B Sleeve assembly
3.500 - 4.670" (88.00 - 118.62mm)



514-9-4C Sleeve assembly
4.250 - 7.360" (107.95 - 136.4mm)



514-9-4F 6 Stone Sleeve Assembly
3.67 - 4.63" (93.22 - 117.60mm)



514-9-6J Stone Holder

2.99 – 3.45" (75.92 – 87.73mm) with 0.321 height stone set.
2.77 – 3.23" (70.23 – 82.04mm) with 0.200 height stone set.

Set of 4



514-9-6A Stone Holder

3.165 - 3.630" (80.39 - 92.20mm) with 0.321 height stone set.
2.94 – 3.41" (74.70 – 86.51mm) with 0.200 height stone set.

Set of 4



514-9-6B Stone Holder

3.415 - 3.880" (86.74 - 98.55mm) with 0.321 height stone set.
3.19 – 3.66" (81.05 – 92.86mm) with 0.200 height stone set.

Set of 4



514-9-6C Stone Holder

3.67 – 4.13" (93.09 – 104.90mm) with 0.321 height stone set.
3.44 – 3.91" (87.40 – 99.21mm) with 0.200 height stone set.

Set of 4



514-9-6D Stone Holder

3.92 – 4.38" (99.44 – 111.25mm) with 0.321 height stone set.

3.69 – 4.16" (93.75 – 105.56mm) with 0.200 height stone set.

Set of 4



514-9-6E Stone Holder

4.17 – 4.63" (105.79 – 117.60mm) with 0.321 height stone set.

3.94 – 4.41" (100.10 – 111.91mm) with 0.200 height stone set.

Set of 4



514-9-6F Stone Holder

4.42 – 4.88" (112.14 – 123.950mm) with 0.321 height stone set.

4.19 – 4.66" (106.45 – 118.26mm) with 0.200 height stone set.

Set of 4



514-9-6G Stone Holder

4.67 – 5.13" (118.49 – 130.30mm) with 0.321 height stone set.

4.44 – 4.91" (112.80 – 124.61mm) with 0.200 height stone set.

Set of 4



514-9-6H Stone Holder

4.92 – 5.38" (124.84 – 136.650mm) with 0.321 height stone set.
4.69 – 5.16" (119.15 – 130.96mm) with 0.200 height stone set.

Set of 4



514-9-6K Stone Holder

5.17 – 5.63" (131.19 – 143.0mm) with 0.321 height stone set.
4.94 – 5.41" (125.50 – 137.31mm) with 0.200 height stone set.

Set of 4



514-9-6L Stone Holder

5.42 – 5.88" (137.54 – 149.35mm) with 0.321 height stone set.
5.19 – 5.66" (131.85 – 143.66mm) with 0.200 height stone set.

Set of 4



514-9-6M Stone Holder

5.67 – 6.13" (143.89 – 155.70mm) with 0.321 height stone set.
5.44 – 5.91" (138.20 – 150.01mm) with 0.200 height stone set.

Set of 4



514-9-6N Stone Holder

5.92 – 6.38" (150.24 – 162.050mm) with 0.321 height stone set.

5.69 – 6.16" (144.55 – 156.36mm) with 0.200 height stone set.

Set of 4



514-9-6P Stone Holder

6.17 – 6.63" (156.59 – 168.40mm) with 0.321 height stone set.

5.94 – 6.41" (150.90 – 162.71mm) with 0.200 height stone set.

Set of 4



514-9-6Q Stone Holder

6.42 – 6.88" (162.94 – 174.75mm) with 0.321 height stone set.

6.19 – 6.66" (157.25 – 169.061mm) with 0.200 height stone set.

Set of 4



514-9-6R Stone Holder

6.67 – 7.13" (169.29 – 181.10mm) with 0.321 height stone set.

6.44 – 6.91" (163.60 – 175.41mm) with 0.200 height stone set.

Set of 4



514-9-6S Stone Holder

6.92 – 7.38" (175.64 – 187.45mm) with 0.321 height stone set.

6.69 – 7.16" (169.95 – 181.76mm) with 0.200 height stone set.

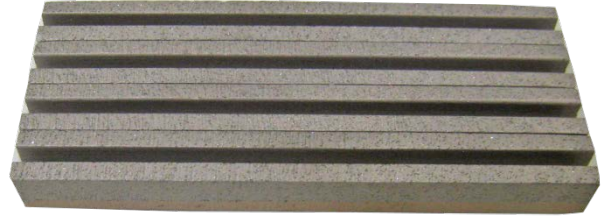
Set of 4



ABRASIVES

Diamond Stones, .312" (7.90mm) Height

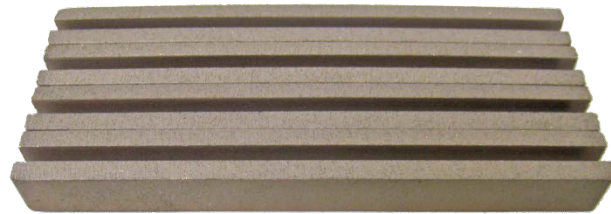
514-9-14F Diamond stones, 80 grit
3" (76mm) long, 90Ra (2.25um)
Stock removal .004-.007/min.



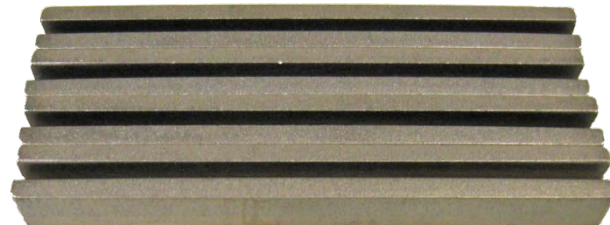
514-9-14R Diamond stones, 80 grit
3 1/2" (89mm) long, 90Ra (2.25um)
Stock removal .004-.007/min. (.102 - .178mm)



514-9-14W Diamond stones
140/170 grit, 3" (76mm) long
50-75Ra (1.25 - 1.875um)



514-9-14K Diamond stones
170/200 grit, 3" (76mm) long
45-60Ra (1.125 - 1.5um)

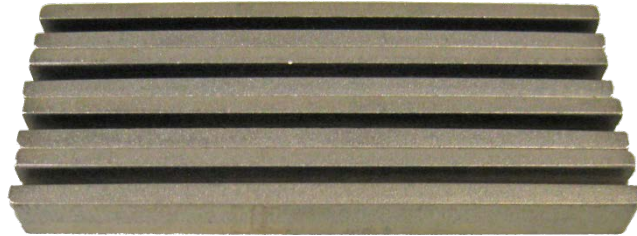


Abrasives

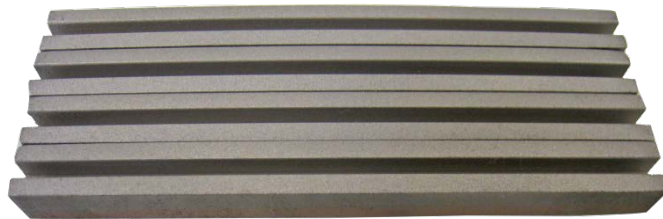
514-9-14M Diamond stones
170/200 grit, 3 1/2" (89mm) long
45-60Ra (1.125 - 1.5um)



514-9-14J Diamond stones
270/325 grit, 3" (76mm) long
35-45Ra (.875 - 1.125um)



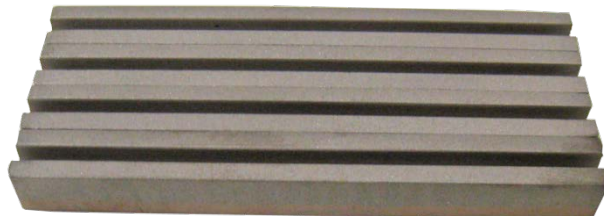
514-9-14T Diamond stones
270/325 grit, 3 1/2" (89mm) long
35-45Ra (.875 - 1.125um)



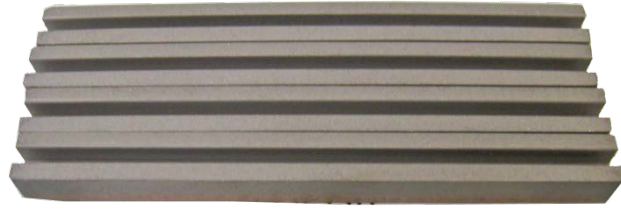
514-9-14Z Diamond Stones
270/325 grit, 4" (102mm) long
35-45Ra (.875 - 1.125um)



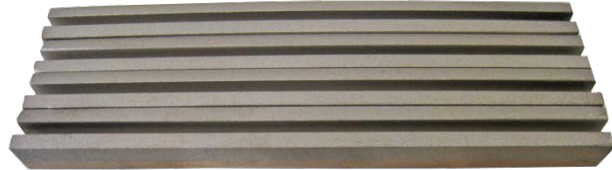
514-9-14E Diamond stones
325/400 grit, 3" (76mm) long
24-30Ra (.6 - .75um)



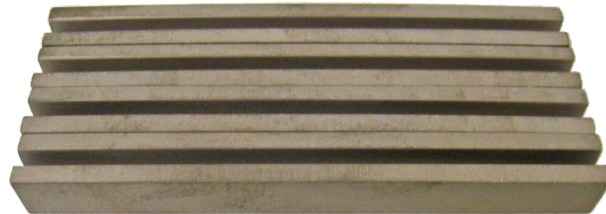
514-9-14Q Diamond stones
325/400 grit, 3 1/2" (89mm) long
24-30Ra (.6 - .75um)



514-9-14X Diamond stones
325/400 grit, 4" (102mm) long
24-30Ra (.6 - .75um)



514-9-14V Diamond stones
400 grit, 3" (76mm) long
15-19Ra (.375 - .475um)



514-9-14C Diamond stones
500 grit, 3" (76mm) long
18-22Ra (.45 - .55um)



514-9-14P Diamond stones
500 grit, 3-1/2" (89mm) long
18-22Ra (.45 - .55um)

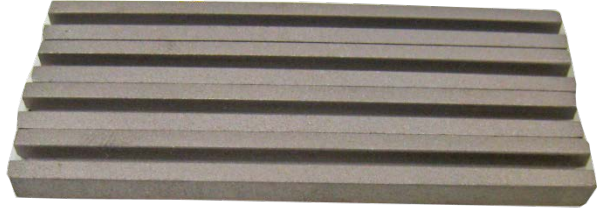


Abrasives

514-9-14D Diamond stones

325/400 grit, 3" (76mm) long, 18-22Ra (.45 - .55um)

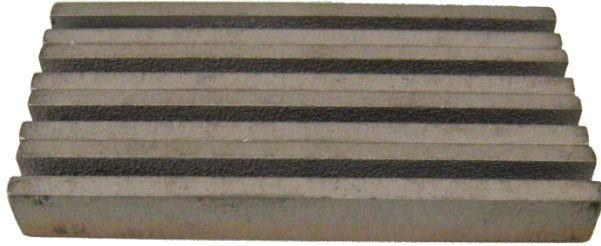
Special required for bores under 2.990" diameter
(75.94mm) .200" (5.1mm) Height



514-9-14U Diamond stones

500 grit, 2 1/2" (64mm) long

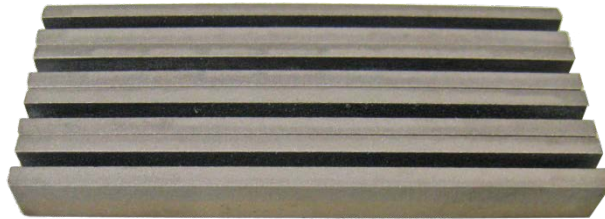
18-22Ra (.45 - .55um)



514-9-14L Diamond stones

550 grit, 3" (76mm) long

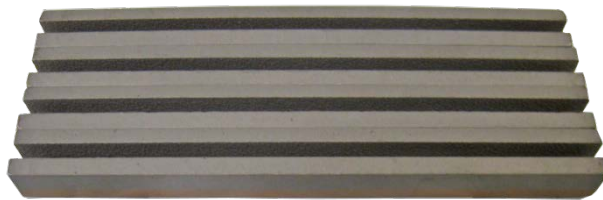
15-19Ra (.375 - .475um)



514-9-14N Diamond stones

550 grit, 3 1/2" (89mm) long

15-19Ra (.375 - .475um)



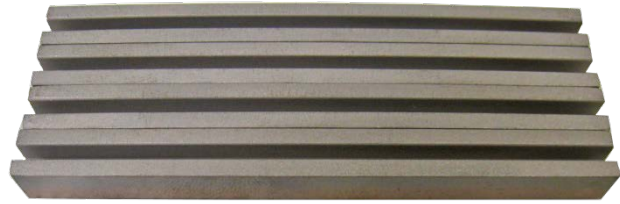
514-9-14G Diamond stones

600 grit, 3" (76mm) long

8-12Ra (.2 - .3um)



514-9-14S Diamond stones
600 grit, 3 1/2" (89mm) long
8-12Ra (.2 - .3um)



514-9-21G Diamond stones
800 grit, 3" (76mm) long



514-9-21H Diamond stones
1000 grit, 3" (76mm) long



514-9-21J Diamond stones
1200 grit, 3" (76mm) long



Brushes for Plateau Finishing with Rottler Precision Hone Heads

514-9-14H Brushes

For Plateau Finishing, .550" (14mm) height

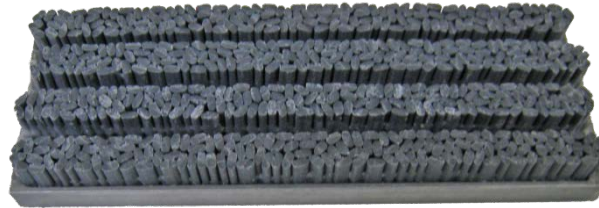
3 1/2" (89mm) long, requires one or two size smaller stone holder compared to .312" (7.90mm) height diamond stone



514-9-14Y Brushes

For Plateau Finishing, .395" (10mm) height

3 1/2" (89mm) long, requires same or one size smaller stone holder compared to .312" (7.90mm) height diamond stone.



Special Stones for Finishing Aluminum Silicone Cylinders

(Refer to bulletin No. 284) Requires Rottler Precision Hone Heads

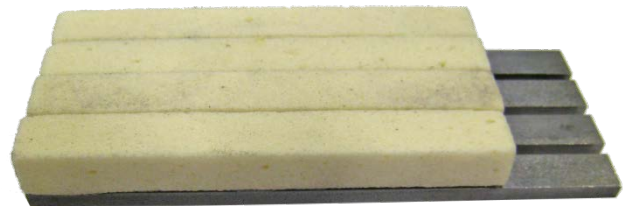
514-9-18P Special Red Finish Diamonds

For Final Sizing (set of 4)



514-9-18N Silicone Abrasive Exposing Stones

For Removing Aluminum (set of 4)



514-9-21 Polishing felt pads

For use with 514-9-21F silicon paste. (set of 4)

Replace box
with correct
illustration
when
available

514-9-21F Silicone Paste

For use with 514-9-21 Polishing felt pads



Honing of Alusil, Silitec, and Lokasil Materials

These instructions are for honing Alusil and Lokasil materials with Rottler H76 honing machine and water base coolant.

Equipment and parts needed

Machine: Rottler H76A

Coolant: Rottler part# 514-4-71C

Hone Head: Rottler part# 514-9G

Stone Holders: Rottler parts determined by size of bore

Abrasives: Rottler 400 grit diamonds part# 514-9-14V (do not substitute different grit size)

KS finishing diamonds Rottler part# 514-9-18P

KS silicon exposing stones Rottler part# 514-8-18N.

Alternative to exposing stones is felt wipers and silicon compound. Rottler part# for felt wipers 514-9-21E. Rottler part# for silicon compound 514-9-21F

Instructions for Honing Alusil and Lokasil Cylinders

Cylinders should be bored to within .002 with a PCD insert. This is very important to prevent fracturing of silicon particles below the finish surface of bore. If PCD isn't used the exposure of the silicon will result in a defective sliding surface for piston and rings.

**NOTE: When using the diamond stones they should be trued in to diameter of cylinder by using them in cast iron cylinder the same diameter of aluminum cylinder being honed. This includes the KS finish diamonds also.*

Cylinders should then be honed on HP7A using Rottler 400 grit diamond stones (no substitutes only use 400 grit) to size with tolerance of +.0002 -.0000. Machine parameters should be set as follows: RPM 200 to 225, Honing loads should be set at 20% to 25% for roughing and 15% finish load.

Next install the KS finishing diamonds and run one cycle in the plateau mode. The plateau mode parameters for the HP7A hone are normally 20% load and 7 strokes per cycle. You will need to change these parameters (see operating instructions) to 10 strokes per cycle and a honing load of 15%. Cylinders should already be to size from previous step. You are not trying to remove much material with this operation. The need for this operation is to lower the surface finish for the next step.

**NOTE: Chamfer or break the edge of the exposing stones prior to using them in bore. This will help prevent chipping on stone edges.*

The last step in the process is to expose the silicon particles by eroding the surrounding metal away from the silicon particles. This can be accomplished with different methods. The first method (easiest and cleanest) is to use the exposing stones part# 514-9-18N. These stones will need to be installed in machine and run for two plateau cycles. The plateau cycles should be same as prior step (10 strokes and 15% honing load). The bores should be flushed with coolant after the first plateau cycle and then second cycle run. It is extremely important that during this last stage that operator not force exposing stones into cylinders. Operator should start stones slightly away from cylinder wall and let machine feed stones into cylinder wall at the 15% honing load specified. These stones are extremely soft and any forcing of stones into cylinder wall will shorten stone life.

The second method to exposing the silicon particles is to use Rottler part# 514-9-21E. These are a felt wiper that is used with Rottler part# 514-9-21F which is a silicon compound paste. When using this method the coolant will need to be shutoff. Take a small paint brush and apply paste to felt wipers and the entire cylinder. Install hone head in bore, hone for approximately 45 to 60 seconds per cylinder. Machine settings for this operation should be RPM 160 to 170, strokes per minute of 60, shut-off automatic stone feed up. Start machine and feed stones up manually until load reaches 15%. Let machine run for 45 to 60 seconds per

cylinder. Reapply silicon compound to each cylinder. There is no need to over stroke cylinder during this process so shorten stroke length accordingly.

For honing the Lokasil and Alusil cylinders the preferred method is the use of exposing stones; however the other method will work.

When Honing Silitec Cylinders

When honing Silitec cylinders use the above method of boring and honing cylinders. When removing metal away from silicon particles the second method of silicon paste and felt wipers must be used for Silitec cylinders only.

ADAPTORS FOR INDUSTRIAL HONE MANDRIALS

514-7-84 Sunnen/Delapena pin hone adaptor

(does not include pin hone head)

