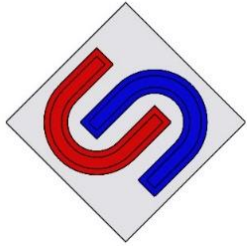


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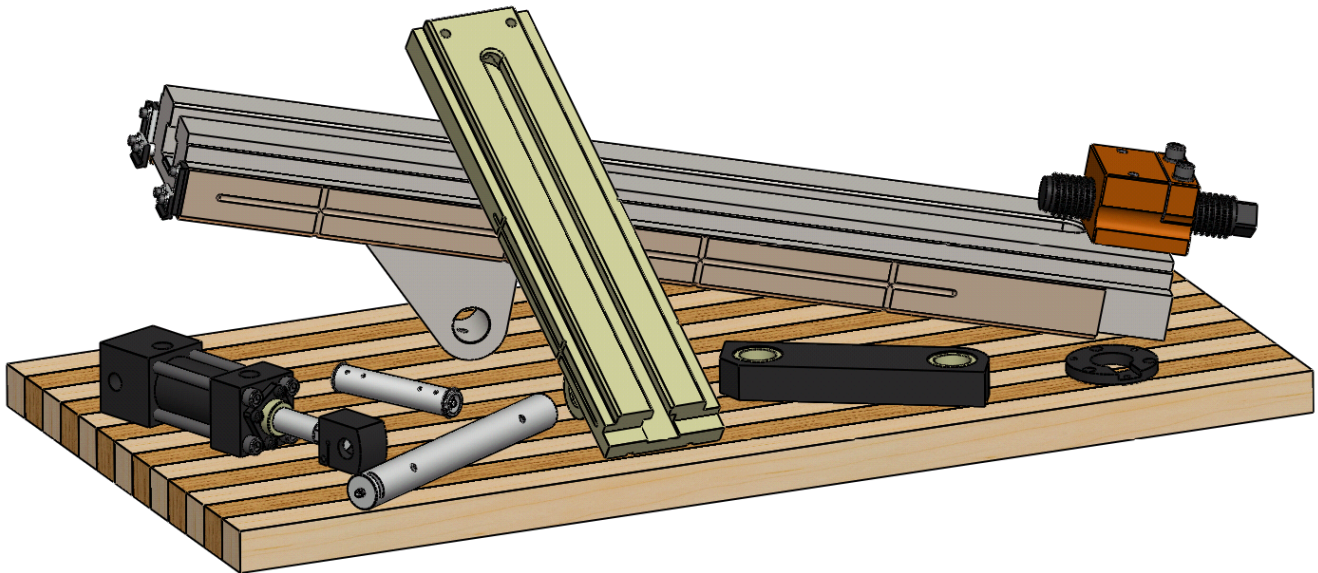
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CATALOG P-5-2019: PARTS FOR PINES ROTARY BENDERS SIZES #3/4 THRU #4

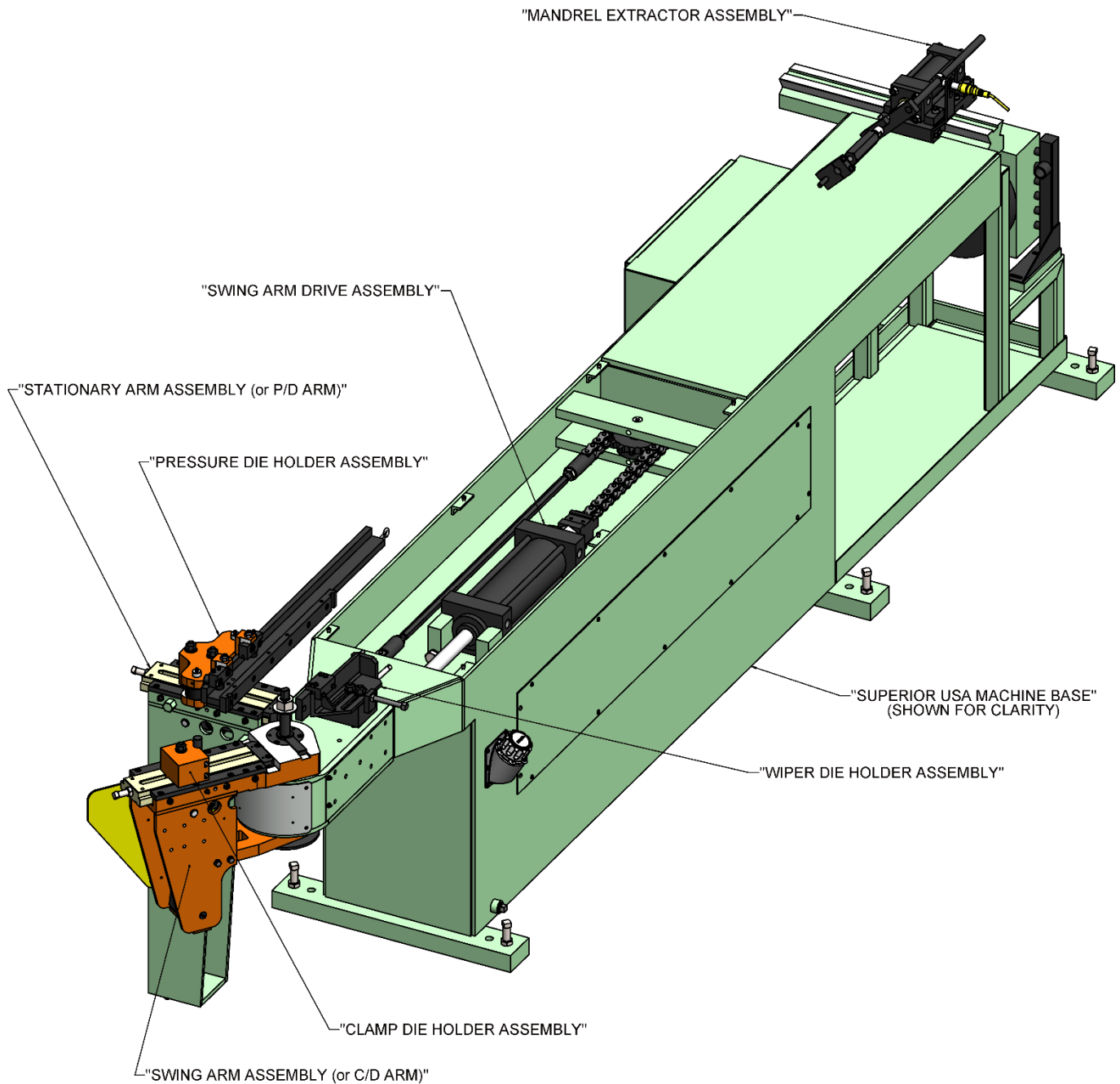
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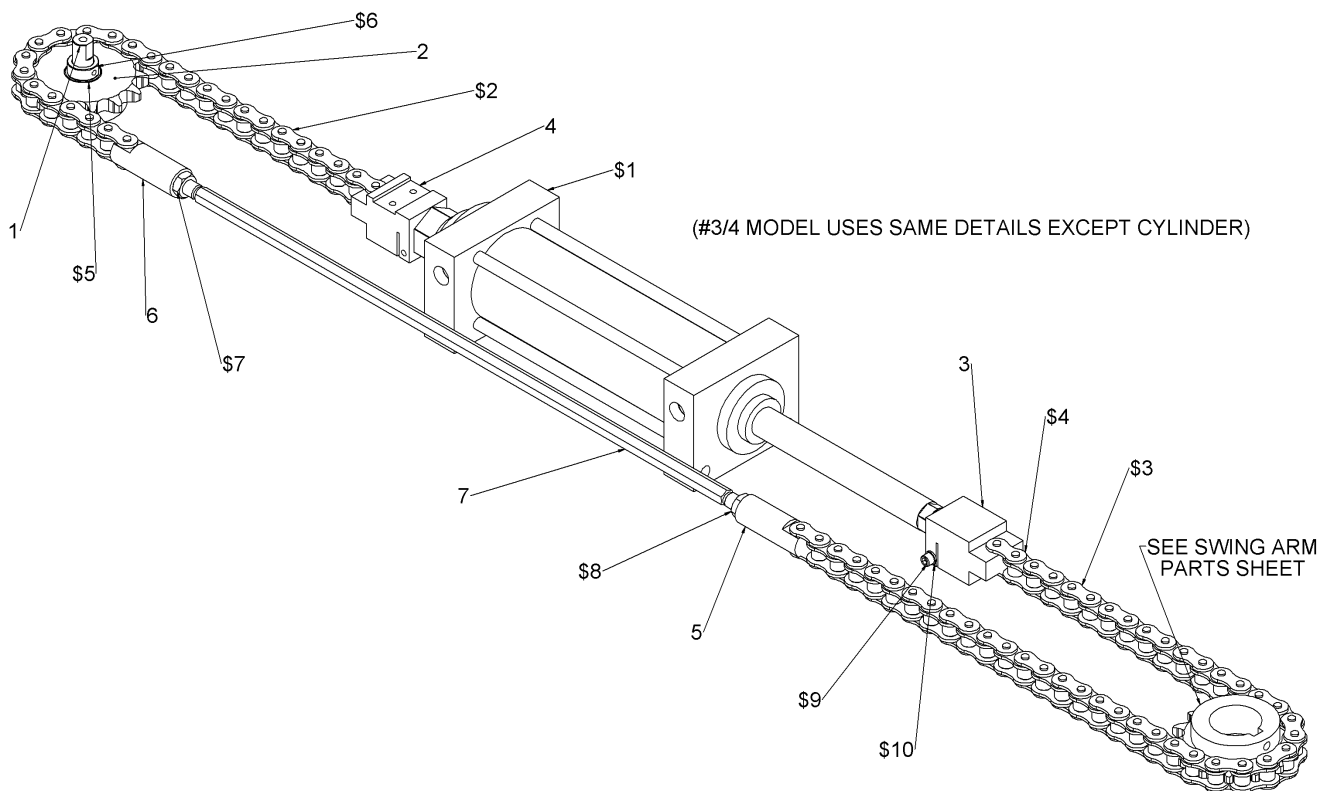
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SUB-ASSEMBLY CALL-OUTS FOR PINES ROTARY TUBE & PIPE BENDERS



SupUSA 150 LEFT HAND ROTARY DRAW BENDER SHOWN REF.
(PARTS ARE DIRECT FIT TO A PINES # ¾ or #1 NC BENDER REF.)

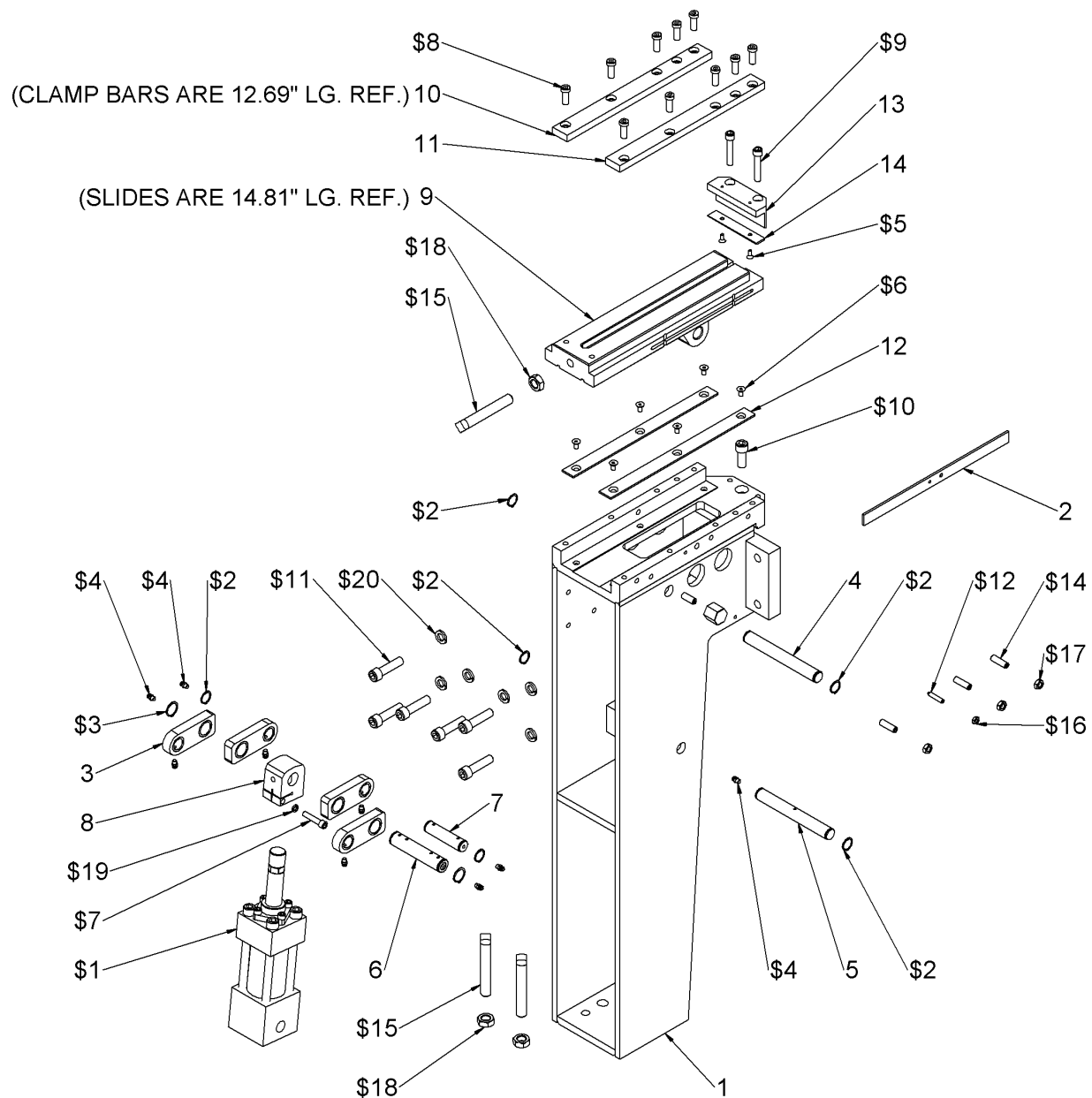


SUPERIOR USA ASSEMBLY PART NO. 13809-01000 (LH) or 13809-01001 (RH) for PINES #3/4
 SUPERIOR USA ASSEMBLY PART NO. 15009-01000 (LH) or 15009-01001 (RH) for PINES #1

STANDARD SWING ARM DRIVE ASSEMBLY (LH #1 SIZE SHOWN)

**STANDARD SWING ARM DRIVE ASSEMBLY for PINES #3/4 or #1
 (MECHANICAL DETAILS ONLY – #1 LH SHOWN)**

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1	15009-50000	110-09-500-00	1	Pin, Rear Drive Sprocket
2	15009-76600	110-09-766-00	1	Rear Drive Sprocket (Has special bore ref.)
3	15009-86000	110-09-860-00	1	Rod End, Bend Cylinder – Front
4	15009-86001	110-09-860-01	1	Rod End, Bend Cylinder – Rear
5	15009-86002	110-09-860-02	1	Rod End, Turnbuckle – Front (LH Thread)
6	15009-86003	110-09-860-03	1	Rod End, Turnbuckle – Rear (RH Thread)
7	15009-87000	110-09-870-00	1	Turnbuckle, Drive Chain
\$1 (#1)	15045-24200	110-45-242-00	1	Hydraulic Cylinder for #1 Model (less fittings)
\$1 (#3/4)	13845-24200	110-45-241-00	1	Hydraulic Cylinder for #3/4 Model (less fig's)
\$2	RS100 X 23	(Std. Purchase)	1	ANSI #RS100 Cottered Roller Chain x 23 links
\$3	RS100 X 41	(Std. Purchase)	1	ANSI #RS100 Cottered Roller Chain x 41 links
\$4	RS100 CL	(Std. Purchase)	4	ANSI #RS100 Roller Chain Connecting Link
\$5	MR-20 / MI-16	(Std. Purchase)	1	Roller Bearing Ass'y for Rear Drive Sprocket
\$6	6432K25	(Std. Purchase)	1	1" Bore Steel Set Screw Shaft Collar – Plated
\$7	(Std.)	(Std. Purchase)	1	3/4"-10 R.H. Heavy Hex Jam Nut – Plated
\$8	(Std.)	(Std. Purchase)	1	3/4"-10 L.H. Heavy Hex Jam Nut – Plated
\$9	(Std.)	(Std. Purchase)	2	3/8"-16 S.H.C.S. x 2" Lg.
\$10	(Std.)	(Std. Purchase)	2	3/8" Nom. Dia. Medium Spring Lock Washer



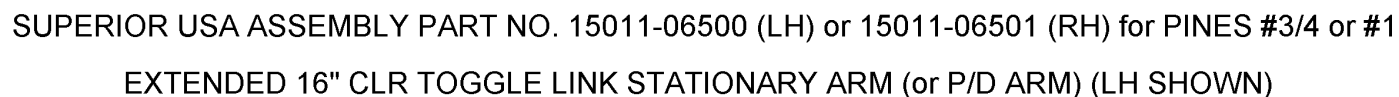
SUPERIOR USA ASSEMBLY PART NO. 15010-06500 (LH) or 15010-06501 (RH) for PINES #3/4 or #1
STANDARD 8" CLR TOGGLE LINK STATIONARY ARM (or P/D ARM) (LH SHOWN)

**SUPERIOR USA ASSEMBLY PART NO. 15010-06500 (LH) or 15010-06501 (RH)
for PINES #¾ or #1**

**STANDARD 8" CLR TOGGLE LINK STATIONARY ARM ASSEMBLY (or P/D ARM)
(MECHANICAL DETAILS ONLY – LH SHOWN)**

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	15010-06700	110-10-067-00	1	Stationary Arm Weldment – LH (CCW)
1 (RH)	15010-06701	110-10-067-01	1	Stationary Arm Weldment – RH (CW)
2	15010-29500	110-10-295-00	1	Gib, Slide
3	15010-43000	110-10-430-00	4	Toggle Link (w/ 2 Bushings Installed)
3-A	15010-43000-BBL	(if sold separately)	4	Large Bushing Only, T-Link (ID Sizing Req'd)
3-B	15010-43000-BBS	(if sold separately)	4	Small Bushing Only, T-Link (ID Sizing Req'd)
4	15010-50400	110-10-504-00	1	Pin – Upper Rear (Includes \$2)
5	15010-50401	110-10-504-01	1	Pin – Clevis (Includes \$2 & \$4)
6	15010-50600	110-10-506-00	1	Pin – Rod End (Includes \$3 & \$4)
7	15010-51000	110-10-510-00	1	Pin – Slide (Includes \$2 & \$4)
8	15010-65200	110-10-652-00	1	Rod End – Clamp Cylinder
9	15010-72500	110-10-725-00	1	Slide – Ampco Bronze, LH (used on LH & RH)
10	15010-80500	110-10-805-00	1	Clamp Bar – Left Side
11	15010-80501	110-10-805-01	1	Clamp Bar – Right Side
12	15010-80700	110-10-807-00	2	Wear Strip - Slide
13	15010-15501	110-10-155-01	1	Slide Hold Down Block – Stationary Arm
14	15010-15502	110-10-155-02	1	Wear Strip – Slide Hold Down
15	15009-15500	110-09-155-00	1	Slide Back-up Block – 1" (Not Shown)
16	15009-15501	110-09-155-01	1	Slide Back-up Block – 2" (Not Shown)
17	15009-15502	110-09-155-02	1	Slide Back-up Block – 3" (Not Shown)
18	15009-15503	110-09-155-03	1	Slide Back-up Block – 4" (Not Shown)
\$1	15024-24200	110-24-242-00	1	Hydraulic Cylinder (Less fittings)
\$2 - \$20	(Call for info)		N/A	Standard Purchase Components & Fasteners

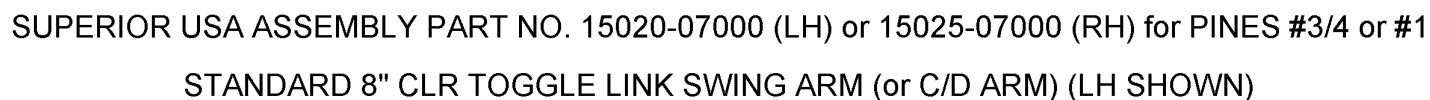
5/21/2019



**SUPERIOR USA ASSEMBLY PART NO. 15011-06500 (LH) or 15011-06501 (RH)
for PINES #¾ or #1**

**EXTENDED 16" CLR TOGGLE LINK STATIONARY ARM ASSEMBLY (or P/D ARM)
(MECHANICAL DETAILS ONLY – LH SHOWN)**

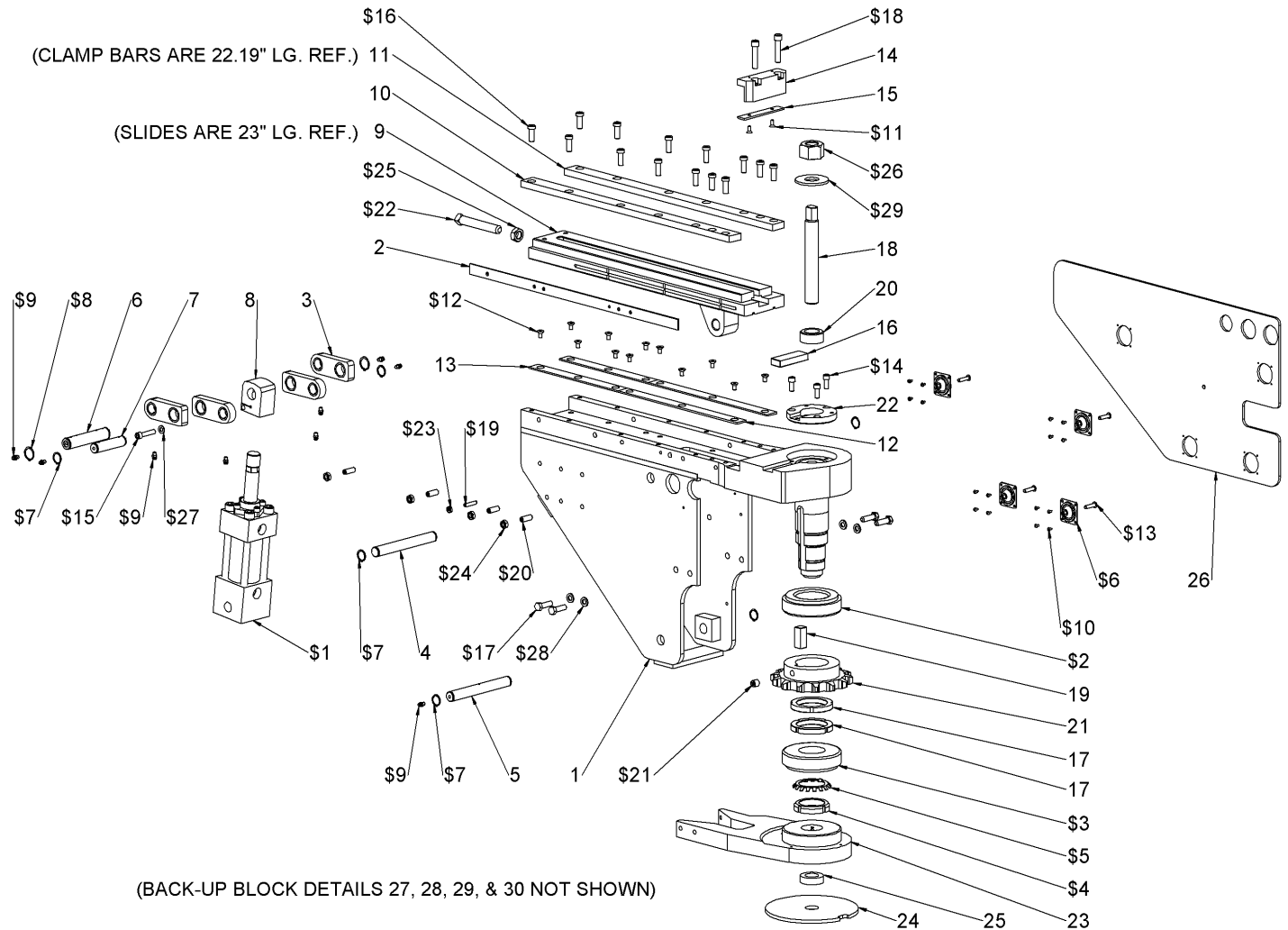
KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	15011-06700	110-11-067-00	1	Stationary Arm Weldment – LH (CCW)
1 (RH)	15011-06701	110-11-067-01	1	Stationary Arm Weldment – RH (CW)
2	15011-29500	110-11-295-00	1	Gib, Slide (Superior makes a 1 pc design ref.)
3	15010-43000	110-10-430-00	4	Toggle Link (w/ 2 Bushings Installed)
3-A	15010-43000-BBL	(if sold separately)	4	Large Bushing Only, T-Link (ID Sizing Req'd)
3-B	15010-43000-BBS	(if sold separately)	4	Small Bushing Only, T-Link (ID Sizing Req'd)
4	15010-50400	110-10-504-00	1	Pin – Upper Rear (Includes \$2)
5	15010-50401	110-10-504-01	1	Pin – Clevis (Includes \$2 & \$4)
6	15010-50600	110-10-506-00	1	Pin – Rod End (Includes \$3 & \$4)
7	15010-51000	110-10-510-00	1	Pin – Slide (Includes \$2 & \$4)
8	15010-65200	110-10-652-00	1	Rod End – Clamp Cylinder
9	15011-72500	110-11-725-00	1	Slide – Ampco Bronze, LH (used on LH & RH)
10	15011-80500	110-11-805-00	1	Clamp Bar – Right Side
11	15011-80501	110-11-805-01	1	Clamp Bar – Left Side
12	15010-80700	110-10-807-00	2	Wear Strip - Slide
13	15011-80700	110-11-807-00	2	Wear Strip Extension - Slide
14	15010-15501	110-10-155-01	1	Slide Hold Down Block – Stationary Arm
15	15010-15502	110-10-155-02	1	Wear Strip – Slide Hold Down
16	15009-15500	110-09-155-00	1	Slide Back-up Block – 1" (Not Shown)
17	15009-15501	110-09-155-01	1	Slide Back-up Block – 2" (Not Shown)
18	15009-15502	110-09-155-02	1	Slide Back-up Block – 3" (Not Shown)
19	15009-15503	110-09-155-03	3	Slide Back-up Block – 4" (Not Shown)
\$1	15024-24200	110-24-242-00	1	Hydraulic Cylinder (Less fittings)
\$2 - \$20	(Call for info)		N/A	Standard Purchase Components & Fasteners



**SUPERIOR USA ASSEMBLY PART NO. 15020-07000 (LH) or 15025-07000 (RH)
for PINES #¾ or #1**

**STANDARD 8" CLR TOGGLE LINK SWING ARM ASSEMBLY (or C/D ARM)
(MECHANICAL DETAILS ONLY – LH SHOWN)**

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	15020-07200	110-20-072-00	1	Swing Arm Weldment – LH (CCW)
1 (RH)	15025-07200	110-25-072-00	1	Swing Arm Weldment – RH (CW)
2	15010-29500	110-10-295-00	1	Gib, Slide
3	15010-43000	110-10-430-00	4	Toggle Link (w/ 2 Bushings Installed)
3-A	15010-43000-BBL	(if sold separately)	4	Large Bushing Only, T-Link (ID Sizing Req'd)
3-B	15010-43000-BBS	(if sold separately)	4	Small Bushing Only, T-Link (ID Sizing Req'd)
4	15010-50400	110-10-504-00	1	Pin – Upper Rear (Includes \$7 & \$9)
5	15010-50401	110-10-504-01	1	Pin – Clevis (Includes \$7 & \$9)
6	15010-50600	110-10-506-00	1	Pin – Rod End (Includes \$8 & \$9)
7	15010-51000	110-10-510-00	1	Pin – Slide (Includes \$7 & \$9)
8	15010-65200	110-10-652-00	1	Rod End – Clamp Cylinder
9 (LH)	15010-72500	110-10-725-00	1	Slide – Ampco Bronze, LH (used on LH only)
9 (RH)	15025-72500	110-25-725-00	1	Slide – Ampco Bronze, RH (used on RH only)
10	15010-80500	110-10-805-00	1	Clamp Bar – Left Side
11	15010-80501	110-10-805-01	1	Clamp Bar – Right Side
12	15010-80700	110-10-807-00	2	Wear Strip - Slide
13	15020-15501	110-20-155-01	1	Slide Hold Down Block – Swing Arm
14	15010-15502	110-10-155-02	1	Wear Strip – Slide Hold Down
15	15009-41700	110-09-417-00	1	Key – Bend Die
16	15009-47500	110-09-475-00	2	Bearing Locknut (for Tapered Drive Sprocket)
17	15009-81600	110-09-816-00	1	Stud – Bend Die (No Overhead Tie Option)
18	15020-42300	110-20-423-00	1	Key – Front Drive Sprocket
19	15020-64000	110-20-640-00	1	Bend Die Locating Ring – Inner
20	15020-76500	110-20-765-00	1	Drive Sprocket – Front (Tapered Bore Style)
21	15020-80700	110-20-807-00	1	Bend Die Locating Ring – Outer
22 (LH)	15020-83101	110-20-831-01	1	Lower Arm Support Bracket, LH (used on LH)
22 (RH)	15025-83101	110-25-831-01	1	Lower Arm Support Bracket, RH (used on RH)
23	30040-07501	112-40-075-01	1	Overtravel Switch Trip Plate
24	30040-07502	112-40-075-02	1	Spacer – Overtravel Plate
25	15068-54400	110-68-544-00	1	Safety Plate (Requires new mtg. hardware ref.)
26	15009-15500	110-09-155-00	1	Slide Back-up Block – 1" (Not Shown)
27	15009-15501	110-09-155-01	1	Slide Back-up Block – 2" (Not Shown)
28	15009-15502	110-09-155-02	1	Slide Back-up Block – 3" (Not Shown)
29	15009-15503	110-09-155-03	1	Slide Back-up Block – 4" (Not Shown)
\$1	15024-24200	110-24-242-00	1	Hydraulic Cylinder (Less fittings)
\$2	3982 / 3920	(Std. Purchase)	1 Set	Upper Spindle Cone / Cup Bearing Set
\$3	3975 / 3920	(Std. Purchase)	1 Set	Lower Spindle Cone / Cup Bearing Set
\$4	AN-10	(Std. Purchase)	1	Bearing Locknut (for Lower Spindle Bearing)
\$5	W-10	(Std. Purchase)	1	Locknut Washer (for Lower Spindle Bearing)
\$6	LC-150P-18	(Not Pines Std.)	4	Platform Mount (Not used on all designs)
\$7 - \$29	(Call for info)		N/A	Standard Purchase Components & Fasteners

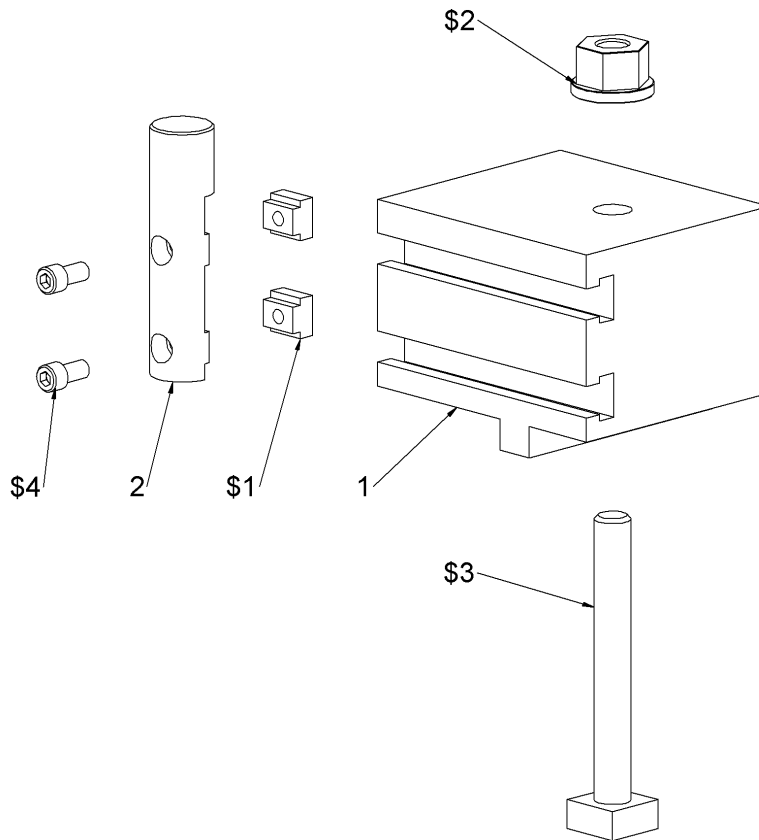


SUPERIOR USA ASSEMBLY PART NO. 15021-07000 (LH) or 15026-07000 (RH) for PINES #3/4 or #1
EXTENDED 16" CLR TOGGLE LINK SWING ARM (or C/D ARM) (LH SHOWN)

**SUPERIOR USA ASSEMBLY PART NO. 15021-07000 (LH) or 15026-07000 (RH)
for PINES #¾ or #1**

**EXTENDED 16" CLR TOGGLE LINK SWING ARM ASSEMBLY (or C/D ARM)
(MECHANICAL DETAILS ONLY – LH SHOWN)**

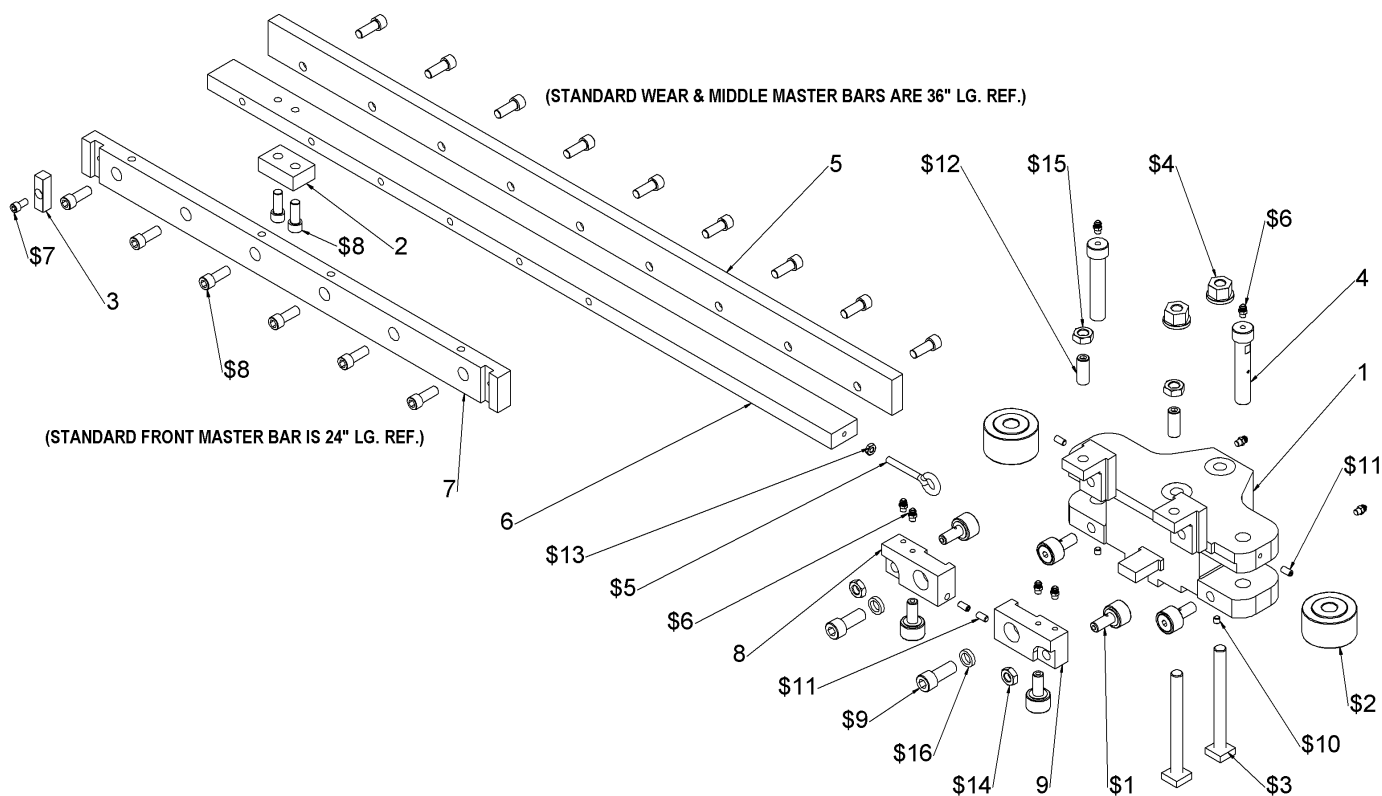
KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	15021-07200	110-21-072-00	1	Swing Arm Weldment, 16" CLR – LH (CCW)
1 (RH)	15026-07200	110-26-072-00	1	Swing Arm Weldment, 16" CLR – RH (CW)
2	15011-29500	110-11-295-00	1	Gib, Slide (HIT makes a 1 pc design ref.)
3	15010-43000	110-10-430-00	4	Toggle Link (w/ 2 Bushings Installed)
3-A	15010-43000-BBL	(if sold separately)	4	Large Bushing Only, T-Link (ID Sizing Req'd)
3-B	15010-43000-BBS	(if sold separately)	4	Small Bushing Only, T-Link (ID Sizing Req'd)
4	15010-50400	110-10-504-00	1	Pin – Upper Rear (Includes \$7 & \$9)
5	15010-50401	110-10-504-01	1	Pin – Clevis (Includes \$7 & \$9)
6	15010-50600	110-10-506-00	1	Pin – Rod End (Includes \$8 & \$9)
7	15010-51000	110-10-510-00	1	Pin – Slide (Includes \$7 & \$9)
8	15010-65200	110-10-652-00	1	Rod End – Clamp Cylinder
9 (LH)	15011-72500	110-11-725-00	1	Slide – Ampco Bronze, LH (used on LH only)
9 (RH)	15026-72500	110-26-725-00	1	Slide – Ampco Bronze, RH (used on RH only)
10	15011-80500	110-11-805-00	1	Clamp Bar – Right Side
11	15011-80501	110-11-805-01	1	Clamp Bar – Left Side
12	15010-80700	110-10-807-00	2	Wear Strip - Slide
13	15011-80700	110-11-807-00	2	Wear Strip Extension - Slide
14	15020-15501	110-20-155-01	1	Slide Hold Down Block – Swing Arm
15	15010-15502	110-10-155-02	1	Wear Strip – Slide Hold Down
16	15009-41700	110-09-417-00	1	Key – Bend Die
17	15009-47500	110-09-475-00	2	Bearing Locknut (for Tapered Drive Sprocket)
18	15009-81600	110-09-816-00	1	Stud – Bend Die (No Overhead Tie Option)
19	15020-42300	110-20-423-00	1	Key – Front Drive Sprocket
20	15020-64000	110-20-640-00	1	Bend Die Locating Ring – Inner
21	15020-76500	110-20-765-00	1	Drive Sprocket – Front (Tapered Bore Style)
22	15020-80700	110-20-807-00	1	Bend Die Locating Ring – Outer
23 (LH)	15020-83101	110-20-831-01	1	Lower Arm Support Bracket, LH (used on LH)
23 (RH)	15025-83101	110-25-831-01	1	Lower Arm Support Bracket, RH (used on RH)
24	30040-07501	112-40-075-01	1	Overtravel Switch Trip Plate
25	30040-07502	112-40-075-02	1	Spacer – Overtravel Plate
26	15068-54421	110-68-544-01	1	Safety Plate (16" CLR Toggle Link Arm)
27	15009-15500	110-09-155-00	1	Slide Back-up Block – 1" (Not Shown)
28	15009-15501	110-09-155-01	1	Slide Back-up Block – 2" (Not Shown)
29	15009-15502	110-09-155-02	1	Slide Back-up Block – 3" (Not Shown)
30	15009-15503	110-09-155-03	3	Slide Back-up Block – 4" (Not Shown)
\$1	15024-24200	110-24-242-00	1	Hydraulic Cylinder (Less fittings)
\$2	3982 / 3920	(Std. Purchase)	1 Set	Upper Spindle Cone / Cup Bearing Set
\$3	3975 / 3920	(Std. Purchase)	1 Set	Lower Spindle Cone / Cup Bearing Set
\$4	AN-10	(Std. Purchase)	1	Bearing Locknut (for Lower Spindle Bearing)
\$5	W-10	(Std. Purchase)	1	Locknut Washer (for Lower Spindle Bearing)
\$6	LC-150P-18	(Not Pines Std.)	4	Platform Mount (Not used on all designs)
\$7 - \$29	(Call for info)		N/A	Standard Purchase Components & Fasteners



SUPERIOR USA ASSEMBLY PART NO. 15050-13500 (LH) or 15050-13501 (RH) for PINES #3/4 or #1
CLAMP DIE HOLDER ASSEMBLY (LH ADJUSTABLE STYLE SHOWN)

CLAMP DIE HOLDER ASSEMBLY for PINES #3/4 or #1 (LH SHOWN)

KEY	H.I.T. PART NO.	REPLACES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	15050-33500	110-50-335-00	1	Block, Clamp Die Holder (LH machine only)
1 (RH)	15050-33501	110-50-335-01	1	Block, Clamp Die Holder (RH machine only)
2	15050-31500	110-50-315-00	1	Half Round – Slotted Style
\$1	1-903-41402	(Std. Purchase)	2	1/4\"-20 T-Nut (TECO #TN-374)
\$2	1-903-41605	(Std. Purchase)	1	1/2\"-13 Hex Flange Nut (TECO #FN-12)
\$3	1-903-46406	(Std. Purchase)	1	1/2\"-13 x 4\" Lg. T-Bolt (TECO)
\$4	(Std.)	(Std. Purchase)	2	1/4\"-20 S.H.C.S. x 1/2\" Lg.

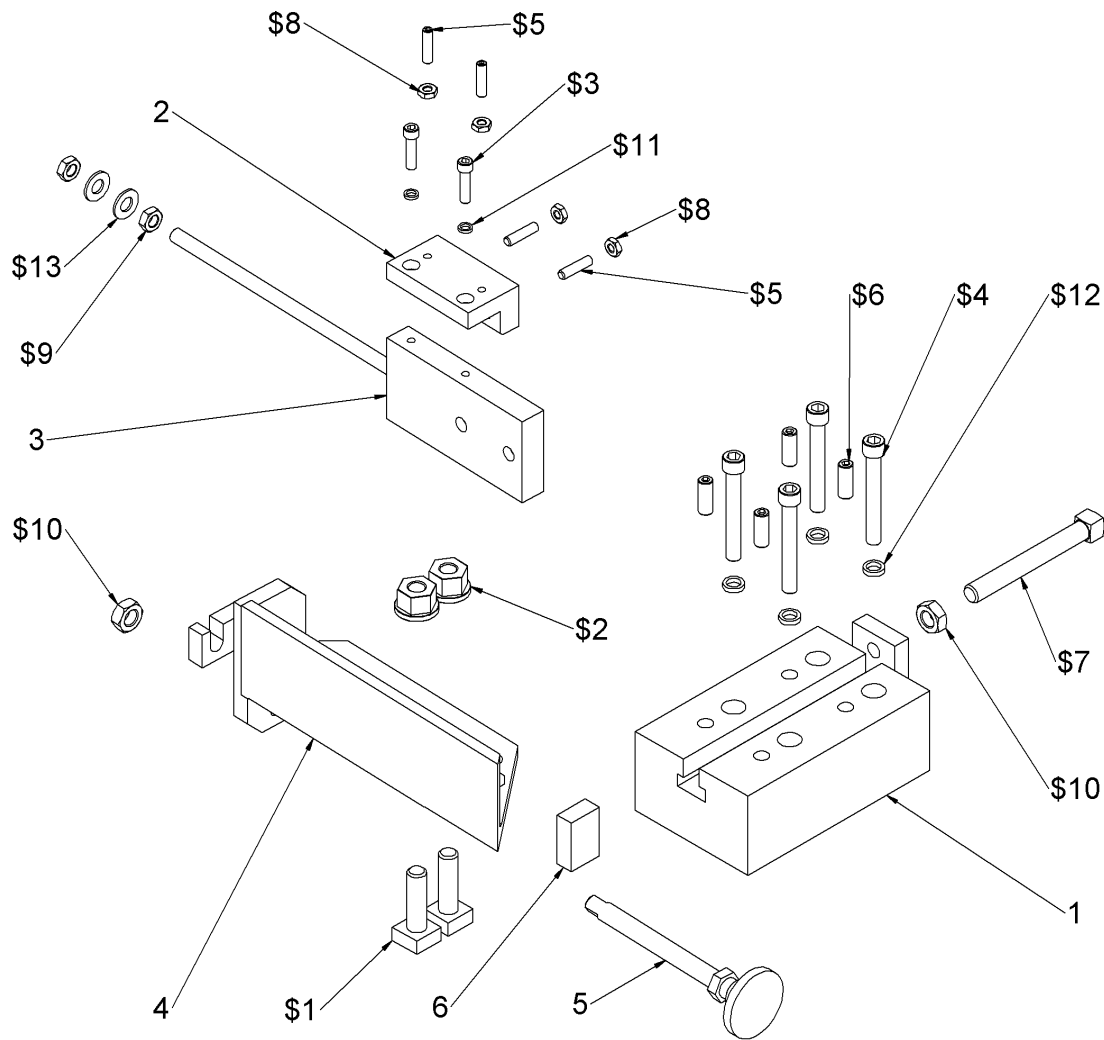


SUPERIOR USA ASSEMBLY PART NO. 15052-34540 (LH) or 15052-34541 (RH) for PINES #3/4 or #1
PRESSURE DIE HOLDER ASSEMBLY (LH SHOWN, RH USES SAME DETAILS)

PRESSURE DIE HOLDER ASSEMBLY for PINES #3/4 or #1 (LH SHOWN)

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1	15052-14533	110-52-145-33	1	Block, Pressure Die Holder (LH or RH)
2	15052-15500	110-52-155-00	1	Stop Block - Master Bar
3	15052-42002	110-52-420-02	1	Key - Master Bar
4	15052-50002	110-52-500-02	2	Pin - Pressure Die
5	15052-53000	110-52-530-00	1	Master Bar - Wear (For 8" CLR Machine)
6	15052-53001	110-52-530-01	1	Master Bar - Middle (For 8" CLR Machine)
7	15052-53002	110-52-530-02	1	Master Bar - Front (For 8" CLR Machine)
8	15052-82801	110-52-828-01	1	Support Block, P/D - Left Side
9	15052-82802	110-52-828-02	1	Support Block, P/D - Right Side
\$1	CF-1-SB	(Std. Purchase)	6	Cam Follower Bearing
\$2	CRY-2 1/4-S	(Std. Purchase)	2	Cam Yoke Roller Bearing
\$3 - \$16	(Call for info)	(Std. Purchase)	N/A	Standard Purchase Components & Fasteners

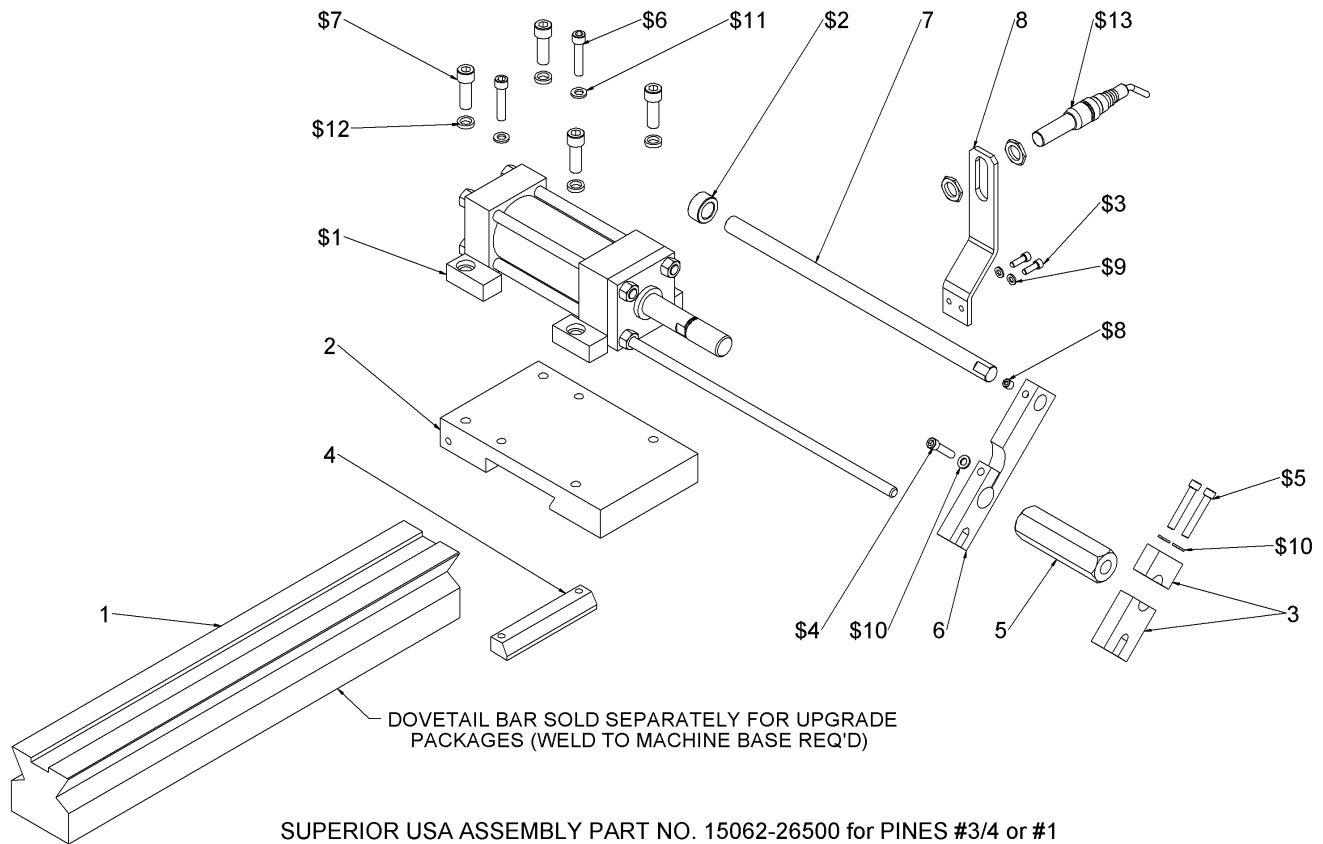
(Details 2, 3, 5, 6, 7, \$5, \$7, \$8, & \$13 also sold as Master Bar Assembly, ref. Pt# 15052-44900)



SUPERIOR USA ASSEMBLY PART NO. 15056-35026 (LH) or 15057-35026 (RH) for PINES #3/4 or #1
STANDARD WIPER DIE HOLDER ASSEMBLY (LH SHOWN)

STANDARD WIPER DIE HOLDER ASSEMBLY for PINES #3/4 or #1 (LH SHOWN)

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1	15056-15000	110-56-150-00	1	Base, "X" Axis Adjustment - WDH
2	15056-36500	110-56-365-00	1	Hanger Bracket - WDH
3	15056-53002	110-56-530-02	1	Wiper Die Holder Plate
4 (LH)	15056-83300	110-56-833-00	1	Bracket, "Y" Axis Adj. (LH machine only)
4 (RH)	15057-83300	110-57-833-00	1	Bracket, "Y" Axis Adj. (RH machine only)
5	15056-83310	110-56-833-10	1	Back-Up Screw, "Y" Axis - WDH
6	15056-83320	110-56-833-20	1	Back-Up Block - WDH
\$1	91523A718	(Std. Purchase)	2	1/2"-13 T-Bolt x 1 3/4" Lg.
\$2 - \$13	(Contact for info)	(Std. Purchase)	N/A	Standard Purchase Components & Fasteners

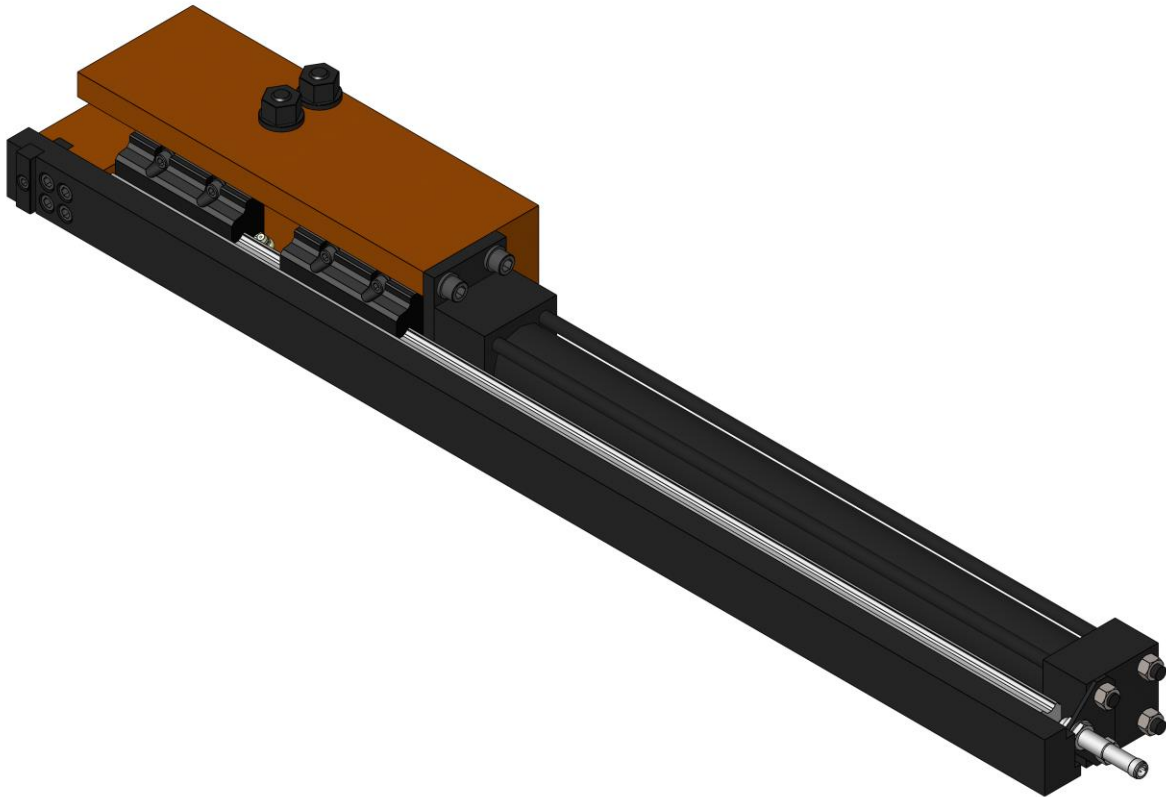


SUPERIOR USA ASSEMBLY PART NO. 15062-26500 for PINES #3/4 or #1

STANDARD 4" STROKE MANDREL EXTRACTOR ASSEMBLY (for LH or RH MACHINES)

**STANDARD MANDREL EXTRACTOR ASSEMBLY for PINES #3/4 or #1
(MECHANICAL DETAILS SHOWN ONLY, CONTACT FOR COMPLETE PACKAGE)**

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1	15030-60506	110-30-605-06	1	Dovetail Bar (Sold separately for upgrade pkg.)
2	15060-14013	110-60-140-13	1	Base Plate – Mandrel Extractor
3	15060-21500	110-60-215-00	1	Anti-Rotate Bracket – Mandrel Rod
4	15060-29507	110-60-295-07	1	Locking Gib – Mandrel Base (Tapped style)
5	15060-87005	110-60-870-05	1	Turnbuckle – Mandrel Rod (3/4"-10 Thd. Std.)
6	15062-06200	110-62-062-00	1	Anti-Rotate Bracket – Cylinder Rod
7	15062-06300	110-62-063-00	1	Rod – Switch Dog
8	15062-06600	110-62-066-00	1	18mm Prox. Switch Bracket – Mandrel Extended
\$1	15000-24202	110-00-242-02	1	Hydraulic Cylinder (Standard size less fittings)
\$2	6432K21	(Std. Purchase)	1	3/4" Bore Set Screw Shaft Collar – Plated Steel
\$3 - \$13	(Contact for info)	(Std. Purchase)	N/A	Standard Purchase Components & Fasteners



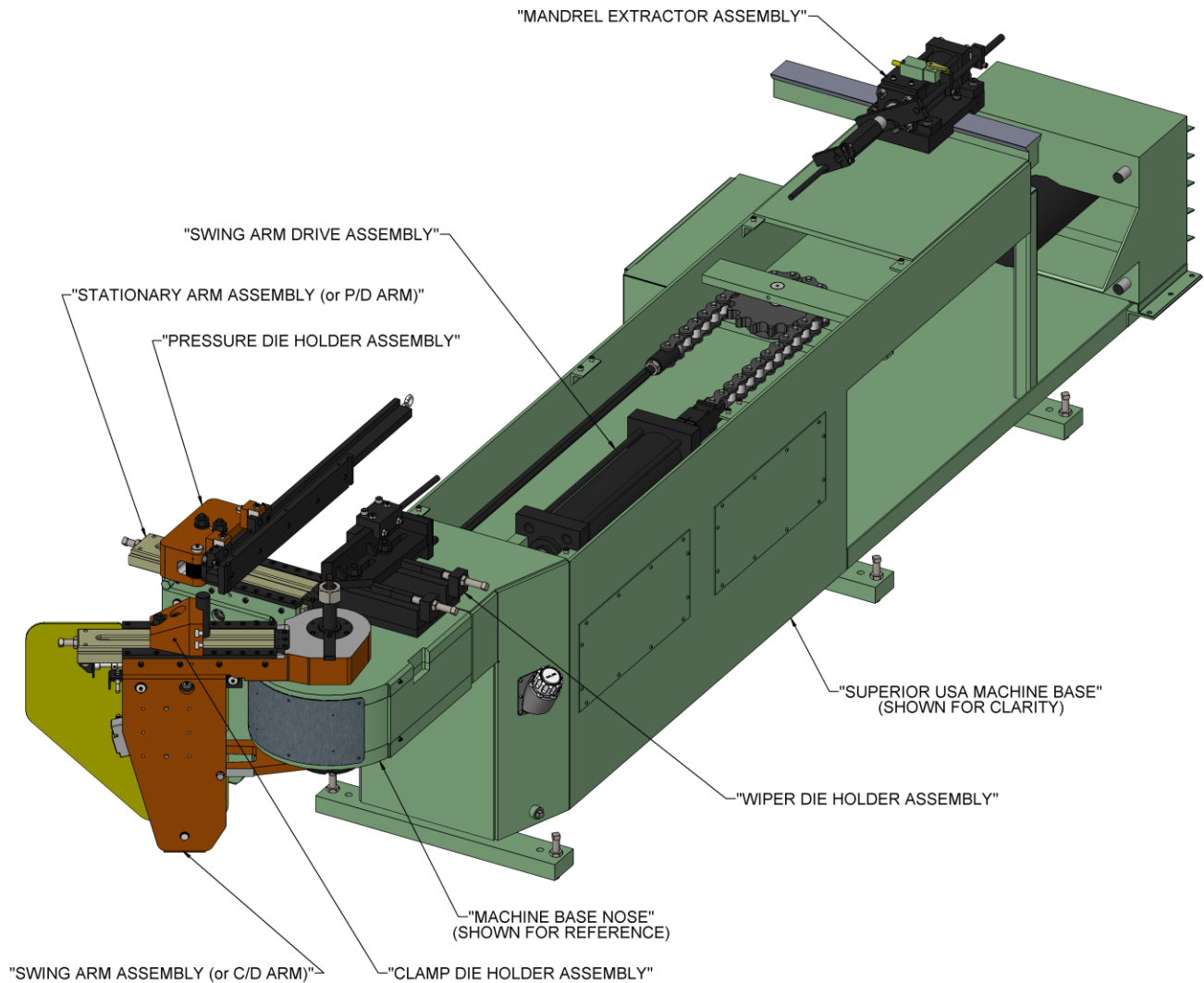
SUPERIOR USA ASSEMBLY PART NO. 15052-34600 (LH) or 15053-34600 (RH) for PINES #3/4 or #1
PRESSURE DIE ASSIST (PDA) ASSEMBLY (LH w/ 18" STROKE SHOWN, 24" STROKE ALSO STD.)

UPGRADE PRESSURE DIE ASSIST ASSEMBLY for PINES #3/4 or #1 (LH SHOWN)

We offer a "PDA" Assembly upgrade package for your Pines #3/4 or #1 tube and pipe bender to help your machine bend tight radius, stainless steel, and thin wall tubing applications with improved quality while reducing wall thinning. We incorporate a low-profile design with an in-line cylinder actuation which is available in various standard and non-standard stroke lengths. Packages can also include hydraulic valve bank and control interface upgrades for machines which were built with a standard free-floating pressure die holder. These assemblies can also be equipped with linear encoding sensors and a proportional valve bank for speed control with CNC machine controllers.

SupUSA PART NO. (L.H. MACHINES)	SupUSA PART NO. (R.H. MACHINES)	DESCRIPTION
15052-34600-18IN	15053-34600-18IN	18" Stroke Pressure Die Assist (PDA) Assembly – Mechanical Only
15052-35600-24IN	15053-35600-24IN	24" Stroke Pressure Die Assist (PDA) Assembly – Mechanical Only
15052-36600-xxIN	15053-36600-xxIN	Special Length Stroke PDA Assembly – Mechanical Only
15052-34600-HVB	15052-34600-HVB	Hydraulic Valve Bank & Control Interface Package for PDA Ass'y

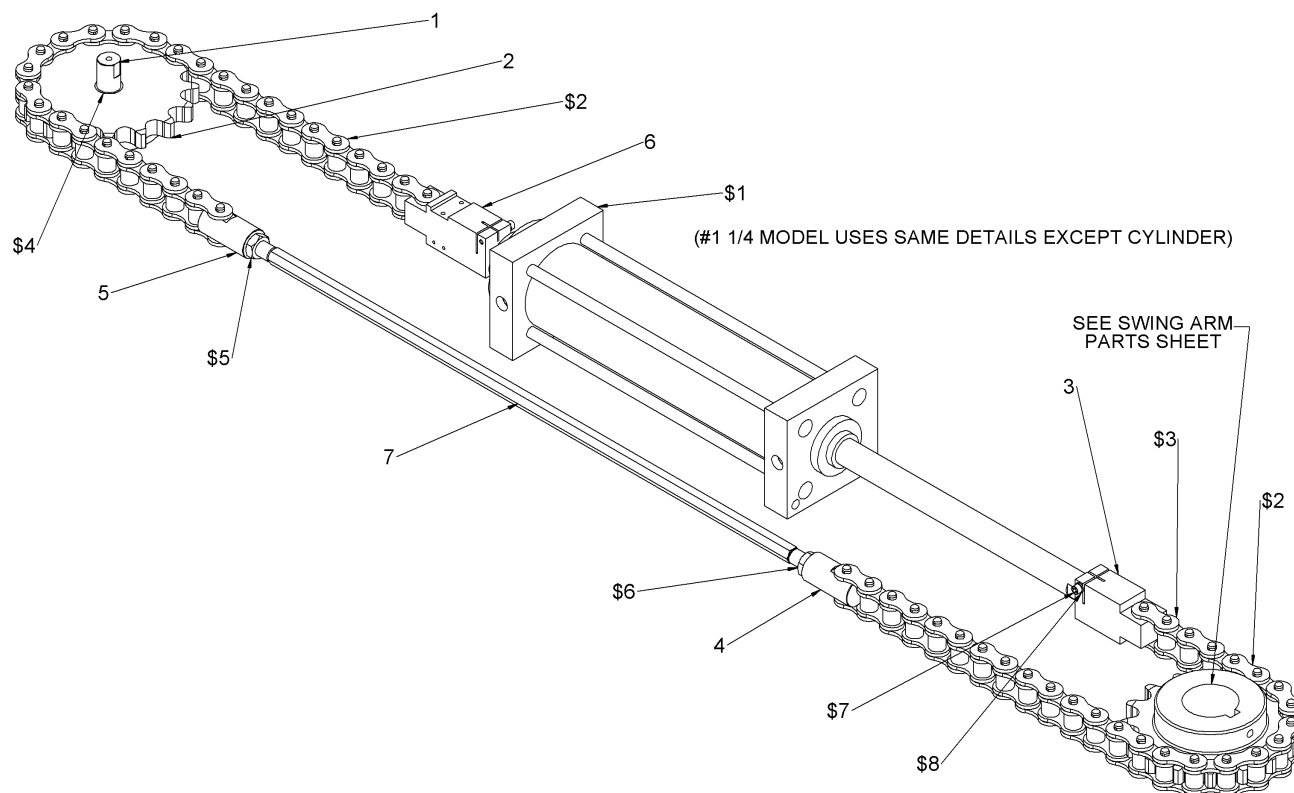
SUB-ASSEMBLY CALL-OUTS FOR PINES ROTARY TUBE & PIPE BENDERS



SupUSA 300 LEFT HAND ROTARY DRAW BENDER SHOWN REF.
(PARTS ARE DIRECT FIT TO A PINES #1¼ or #2 NC BENDER REF.)

PINES #1 ¼ & #2 TUBE & PIPE BENDERS

5/21/2019

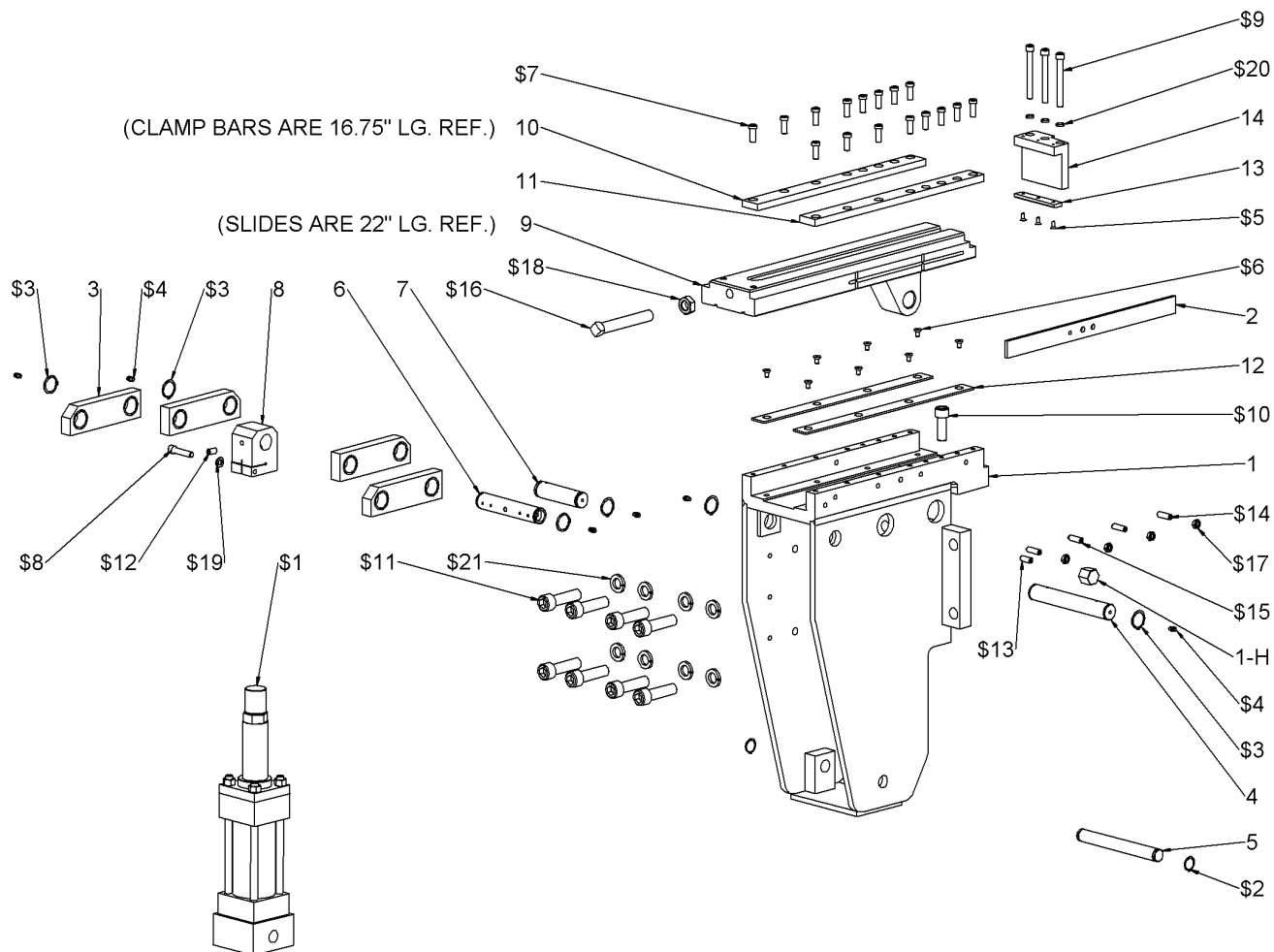


SUPERIOR USA ASSEMBLY PART NO. 25009-01000 (LH) or 25009-01001 (RH) for PINES #1 1/4
SUPERIOR USA ASSEMBLY PART NO. 30009-01000 (LH) or 30009-01001 (RH) for PINES #2

STANDARD SWING ARM DRIVE ASSEMBLY (LH #2 SIZE SHOWN)

STANDARD SWING ARM DRIVE ASSEMBLY for PINES #1 ¼ or #2 (MECHANICAL DETAILS ONLY – #2 LH SHOWN)

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1	30009-50000	112-09-500-00	1	Pin, Rear Drive Sprocket
2	30009-76500	112-09-765-00	1	Rear Drive Sprocket (Includes Detail \$4 Installed)
3	30009-86000	112-09-860-00	1	Rod End, Bend Cylinder – Front
4	30009-86001	112-09-860-01	1	Rod End, Turnbuckle – Front (LH Thread)
5	30009-86002	112-09-860-02	1	Rod End, Turnbuckle – Rear (RH Thread)
6	30009-86003	112-09-860-03	1	Rod End, Bend Cylinder - Rear
7	30009-87000	112-09-870-00	1	Turnbuckle, Drive Chain
\$1 (#2)	30045-24200	112-45-242-00	1	Hydraulic Cylinder for #2 Model (less fittings)
\$1 (#1 1/4)	25045-24200	112-45-241-00	1	Hydraulic Cylinder for #1 1/4 Model (less fig's)
\$2	RS160 X 25	(Std. Purchase)	2	ANSI #RS160 Cottered Roller Chain x 25 Links
\$3	RS160 CL	(Std. Purchase)	4	ANSI #RS160 Roller Chain Connecting Link
\$4	CB242824	(Std. Purchase)	1	Bronze Bushing (Requires sizing after install)
\$5	(Std.)	(Std. Purchase)	1	1"-8 R.H. Heavy Hex Jam Nut – Plated
\$6	(Std.)	(Std. Purchase)	1	1"-8 L.H. Heavy Hex Jam Nut – Plated
\$7	(Std.)	(Std. Purchase)	2	3/8"-16 S.H.C.S. x 2 1/4" Lg.
\$8	(Std.)	(Std. Purchase)	2	3/8" Nom. Dia. Medium Spring Lock Washer

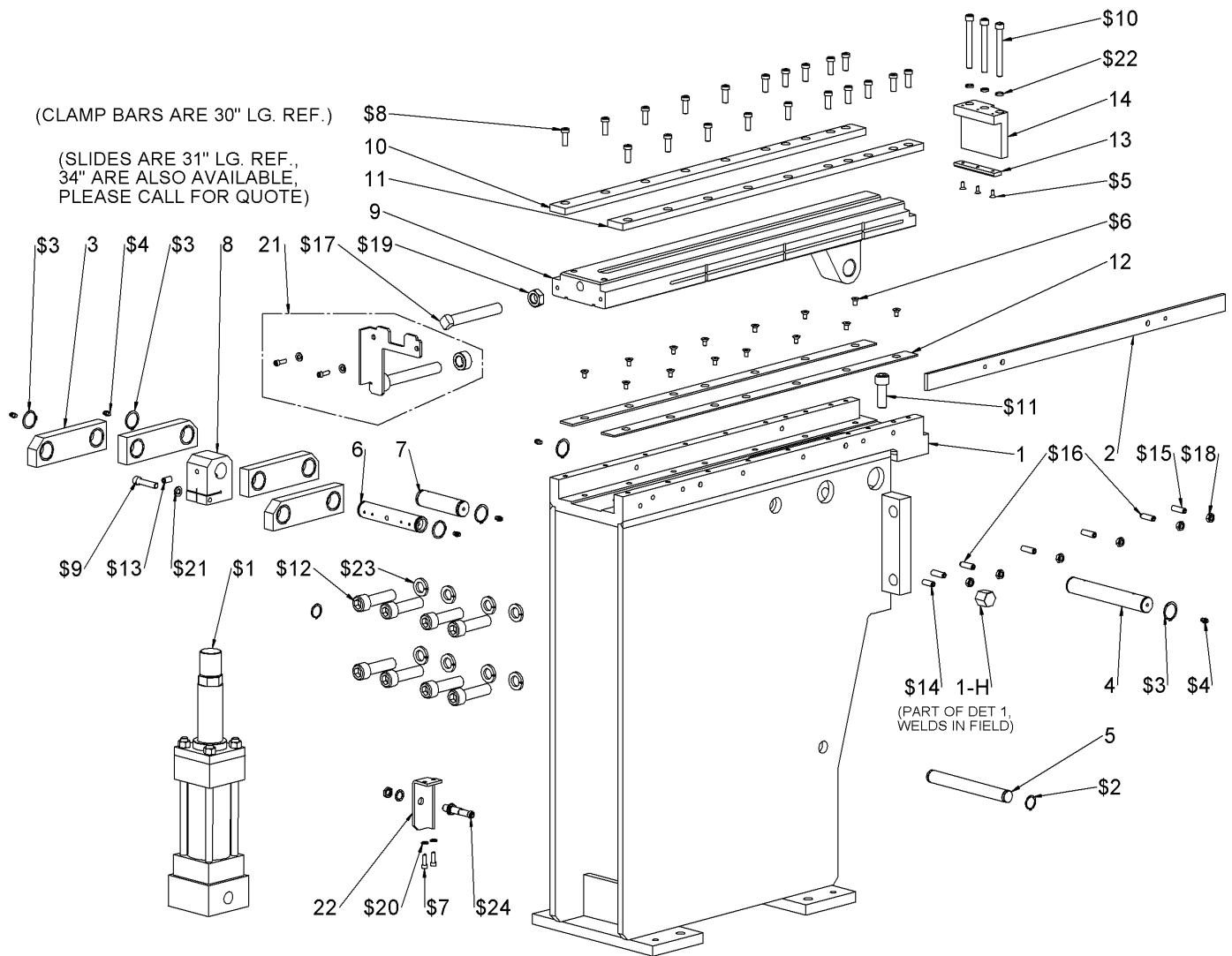


SUPERIOR USA ASSEMBLY PART NO. 30010-06500 (LH) or 30010-06501 (RH) for PINES #1 1/4 or #2
STANDARD 12" CLR TOGGLE LINK STATIONARY ARM (or P/D ARM) (LH SHOWN)

**SUPERIOR USA ASSEMBLY PART NO. 30010-06500 (LH) or 30010-06501 (RH)
for PINES #1 ¼ or #2**

**STANDARD 12" CLR TOGGLE LINK STATIONARY ARM ASSEMBLY (or P/D ARM)
(MECHANICAL DETAILS ONLY – LH SHOWN)**

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	30010-06700	112-10-067-00	1	Stationary Arm Weldment – LH (CCW)
1 (RH)	30010-06701	112-10-067-01	1	Stationary Arm Weldment – RH (CW)
2	30010-29500	112-10-295-00	1	Gib, Slide
3	30010-43000	112-10-430-00	4	Toggle Link (w/ 2 Bushings Installed)
3-A	30010-43000-BB	(if sold separately)	8	Bushing Only, Toggle Link (ID Sizing Req'd)
4	30010-50400	112-10-504-00	1	Pin – Upper Rear (Includes \$3 & \$4)
5	30010-50401	112-10-504-01	1	Pin – Clevis (Includes \$2)
6	30010-50600	112-10-506-00	1	Pin – Rod End (Includes \$3 & \$4)
7	30010-51000	112-10-510-00	1	Pin – Slide (Includes \$3 & \$4)
8	30010-65200	112-10-652-00	1	Rod End – Clamp Cylinder
9	30010-72500	112-10-725-00	1	Slide – Ampco Bronze, LH (used on LH & RH)
10	30010-80501	112-10-805-01	1	Clamp Bar – Left Side
11	30010-80502	112-10-805-02	1	Clamp Bar – Right Side
12	30010-80700	112-10-807-00	2	Wear Strip - Slide
13	30010-15501	112-10-155-01	1	Wear Strip – Slide Hold Down
14 (LH)	30010-15503	112-10-155-03	1	Slide Hold Down Block – Stationary Arm (LH)
14 (RH)	30010-15504	112-10-155-04	1	Slide Hold Down Block – Stationary Arm (RH)
15	30009-15500	112-09-155-00	1	Slide Back-up Block – 1" (Not Shown)
16	30009-15501	112-09-155-01	1	Slide Back-up Block – 2" (Not Shown)
17	30009-15502	112-09-155-02	1	Slide Back-up Block – 3" (Not Shown)
18	30009-15503	112-09-155-03	1	Slide Back-up Block – 4" (Not Shown)
19	30009-15504	112-09-155-04	1	Slide Back-up Block – 5" (Not Shown)
\$1	30024-24200	112-24-242-00	1	Hydraulic Cylinder (Less fittings)
\$2 - \$21	(Call for info)	(Std. Purchase)	N/A	Standard Purchase Components & Fasteners

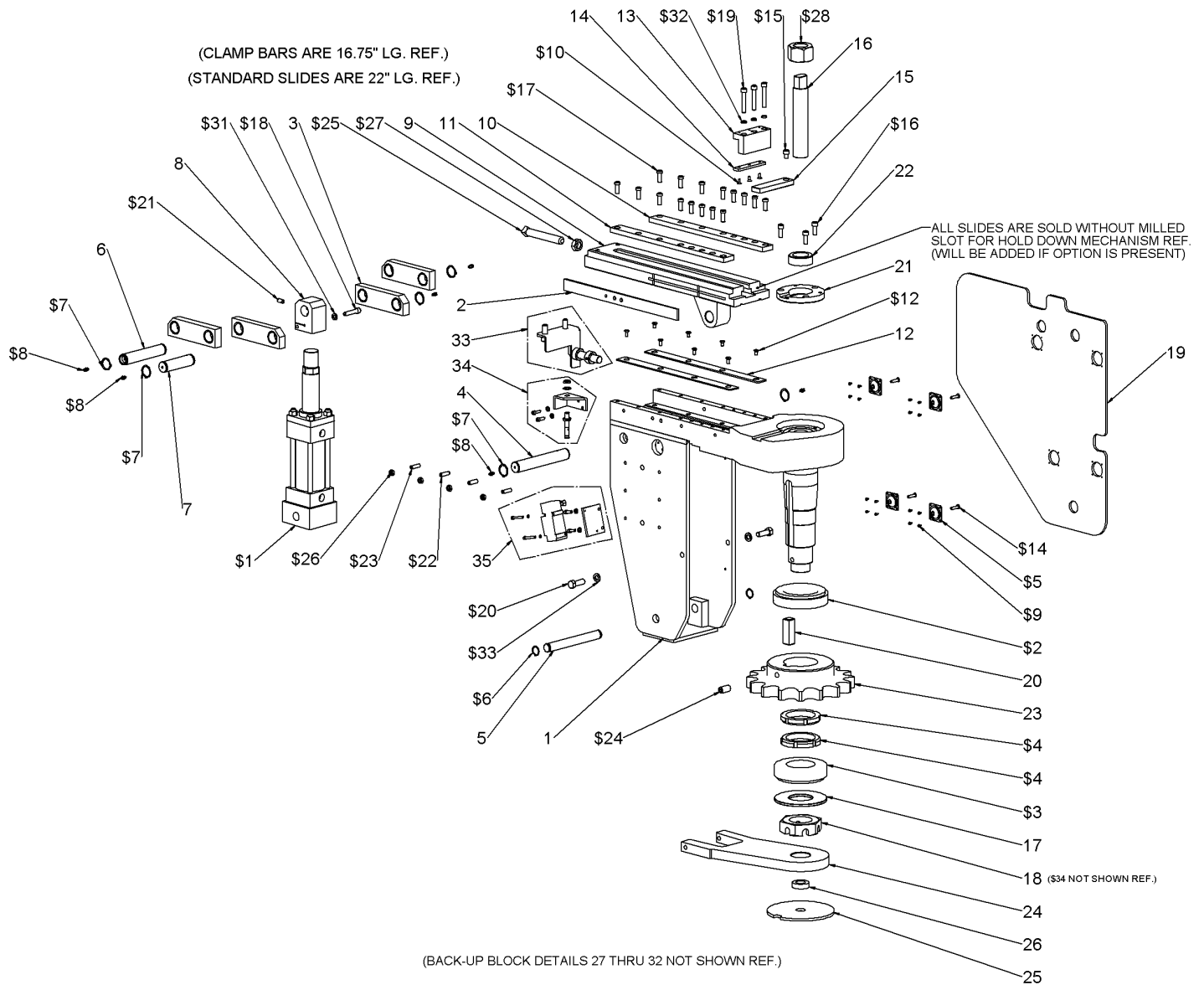


SUPERIOR USA ASSEMBLY PART NO. 30011-06500 (LH) or 30011-06501 (RH) for PINES #1 ¼ or #2
EXTENDED 20 ¼" CLR TOGGLE LINK STATIONARY ARM (or P/D ARM) (LH SHOWN)

**SUPERIOR USA ASSEMBLY PART NO. 30011-06500 (LH) or 30011-06501 (RH)
for PINES #1 ¼ or #2**

**EXTENDED 20 1/4" CLR TOGGLE LINK STATIONARY ARM ASSEMBLY (or P/D ARM)
(MECHANICAL DETAILS ONLY – LH SHOWN)**

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	30011-06700	112-11-067-00	1	Stationary Arm Weldment – LH (CCW)
1 (RH)	30011-06701	112-11-067-01	1	Stationary Arm Weldment – RH (CW)
2	30011-29500	112-11-295-00	1	Gib, Slide
3	30010-43000	112-10-430-00	4	Toggle Link (w/ 2 Bushings Installed)
3-A	30010-43000-BB	(if sold separately)	8	Bushing Only, Toggle Link (ID Sizing Req'd)
4	30010-50400	112-10-504-00	1	Pin – Upper Rear (Includes \$3 & \$4)
5	30010-50401	112-10-504-01	1	Pin – Clevis (Includes \$2)
6	30010-50600	112-10-506-00	1	Pin – Rod End (Includes \$3 & \$4)
7	30010-51000	112-10-510-00	1	Pin – Slide (Includes \$3 & \$4)
8	30010-65200	112-10-652-00	1	Rod End – Clamp Cylinder
9	30011-72500	112-11-725-00	1	Slide – Ampco Bronze, LH (used on LH & RH)
10	30011-80501	112-11-805-01	1	Clamp Bar – Left Side
11	30011-80502	112-11-805-02	1	Clamp Bar – Right Side
12	30011-80700	112-11-807-00	2	Wear Strip - Slide
13	30010-15501	112-10-155-01	1	Wear Strip – Slide Hold Down
14 (LH)	30010-15503	112-10-155-03	1	Slide Hold Down Block – Stationary Arm (LH)
14 (RH)	30010-15504	112-10-155-04	1	Slide Hold Down Block – Stationary Arm (RH)
15	30009-15500	112-09-155-00	1	Slide Back-up Block – 1" (Not Shown)
16	30009-15501	112-09-155-01	1	Slide Back-up Block – 2" (Not Shown)
17	30009-15502	112-09-155-02	1	Slide Back-up Block – 3" (Not Shown)
18	30009-15503	112-09-155-03	1	Slide Back-up Block – 4" (Not Shown)
19	30009-15504	112-09-155-04	1	Slide Back-up Block – 5" (Not Shown)
20	30009-15505	112-09-155-05	2	Slide Back-up Block – 6" (Not Shown)
21	30009-07700	(None)	1	Switch Trip Bracket Assembly – “Clamped”
22	30009-17100	(None)	1	Proximity Switch Bracket – “Arm Clamped”
\$1	30024-24200	112-24-242-00	1	Hydraulic Cylinder (Less fittings)
\$2 - \$24	(Call for info)	(Std. Purchase)	N/A	Standard Purchase Components & Fasteners

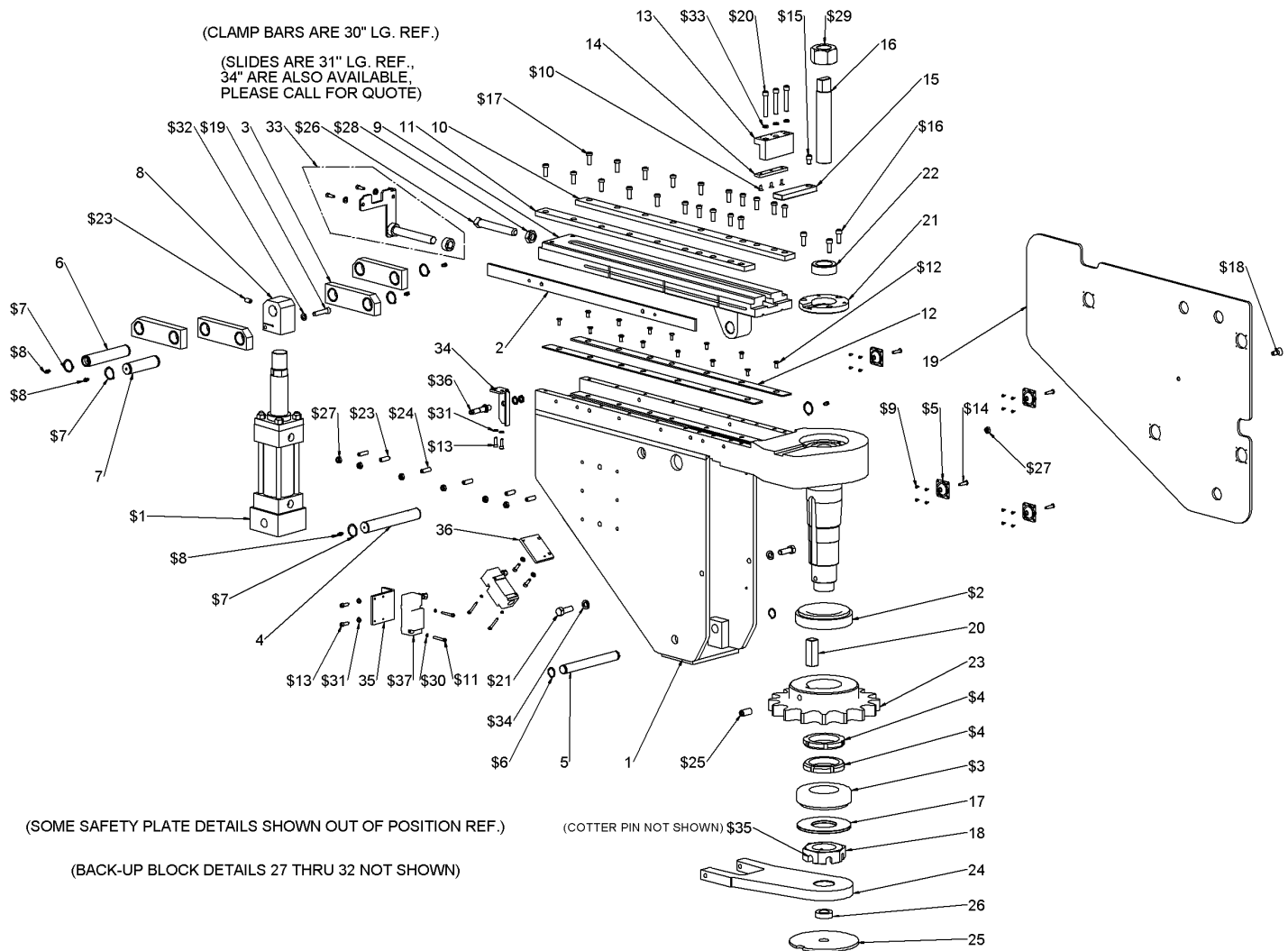


SUPERIOR USA ASSEMBLY PART NO. 30020-07000 (LH) or 30025-07000 (RH) for PINES #1 1/4 or #2
STANDARD 12" CLR TOGGLE LINK SWING ARM (or C/D ARM) (LH SHOWN)

**SUPERIOR USA ASSEMBLY PART NO. 30020-07000 (LH) or 30025-07000 (RH)
for PINES #1 ¼ or #2**

**STANDARD 12" CLR TOGGLE LINK SWING ARM ASSEMBLY (or C/D ARM)
(MECHANICAL DETAILS ONLY – LH SHOWN)**

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	30020-07200	112-20-072-00	1	Swing Arm Weldment – LH (CCW)
1 (RH)	30025-07200	112-25-072-00	1	Swing Arm Weldment – RH (CW)
2	30010-29500	112-10-295-00	1	Gib, Slide
3	30010-43000	112-10-430-00	4	Toggle Link (w/ 2 Bushings Installed)
3-A	30010-43000-BB	(if sold separately)	8	Bushing Only, Toggle Link (ID Sizing Req'd)
4	30010-50400	112-10-504-00	1	Pin – Upper Rear (Includes \$7 & \$8)
5	30010-50401	112-10-504-01	1	Pin – Clevis (Includes \$6)
6	30010-50600	112-10-506-00	1	Pin – Rod End (Includes \$7 & \$8)
7	30010-51000	112-10-510-00	1	Pin – Slide (Includes \$7 & \$8)
8	30010-65200	112-10-652-00	1	Rod End – Clamp Cylinder
9 (LH)	30010-72500	112-10-725-00	1	Slide – Ampco Bronze, LH (used on LH only)
9 (RH)	30025-72500	112-25-725-00	1	Slide – Ampco Bronze, RH (used on RH only)
10	30010-80501	112-10-805-01	1	Clamp Bar – Left Side
11	30010-80502	112-10-805-02	1	Clamp Bar – Right Side
12	30010-80700	112-10-807-00	2	Wear Strip - Slide
13	30010-15500	112-10-155-00	1	Slide Hold Down Block – Swing Arm
14	30010-15501	112-10-155-01	1	Wear Strip – Slide Hold Down
15	30009-41700	112-09-417-00	1	Key – Bend Die
16	30009-81600	112-09-816-00	1	Stud – Bend Die (No Overhead Tie Option)
17	30009-94000	112-09-940-00	1	Thrust Washer – Lower Bearing
18	30009-99000	112-09-990-00	1	Castle Locknut – Spindle Bearing
19	30011-01000	112-11-010-00	1	Safety Plate
20	30020-42300	112-20-423-00	1	Key – Front Drive Sprocket
21	30020-62800	112-20-628-00	1	Bend Die Locating Ring – Outer
22	30020-64000	112-20-640-00	1	Bend Die Locating Ring – Inner
23	30020-76500	112-20-765-00	1	Drive Sprocket – Front (Tapered Bore Style)
24	30020-83100	112-20-831-00	1	Lower Arm Support Bracket
25	30040-07501	112-40-075-01	1	Overtravel Switch Trip Plate
26	30040-07502	112-40-075-02	1	Spacer – Overtravel Plate
27	30009-15500	112-09-155-00	1	Slide Back-up Block – 1" (Not Shown)
28	30009-15501	112-09-155-01	1	Slide Back-up Block – 2" (Not Shown)
29	30009-15502	112-09-155-02	1	Slide Back-up Block – 3" (Not Shown)
30	30009-15503	112-09-155-03	1	Slide Back-up Block – 4" (Not Shown)
31	30009-15504	112-09-155-04	1	Slide Back-up Block – 5" (Not Shown)
32	30009-15505	112-09-155-05	1	Slide Back-up Block – 6" (Not Shown)
33	30009-07600	(No Pines Pt#)	1	Switch Trip Bracket Assembly – Slide Clamped
34	30009-17000	(No Pines Pt#)	1	Switch Bracket- Clamped (Switch sold separately)
35	30011-02300	(No Pines Pt#)	1	Switch Bracket- Safety Pl. (Switch sold separate)
\$1	30024-24200	112-24-242-00	1	Hydraulic Cylinder (Less fittings)
\$2	47890 / 47820	(Std. Purchase)	1 Set	Upper Spindle Cone / Cup Bearing Set
\$3	575 / 572	(Std. Purchase)	1 Set	Lower Spindle Cone / Cup Bearing Set
\$4	AN-16	(Std. Purchase)	2	Bearing Locknut (for Tapered Drive Sprocket)
\$5	LC-150P-18	(Not Pines Std.)	4	Platform Mount (Not used on all designs)
\$6 - \$37	(Call for info)		N/A	Standard Purchase Components & Fasteners

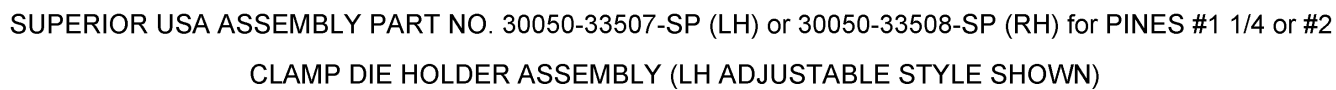


SUPERIOR USA ASSEMBLY PART NO. 30021-07000 (LH) or 30026-07000 (RH) for PINES #1 1/4 or #2
EXTENDED 20 1/4" CLR TOGGLE LINK SWING ARM (or C/D ARM) (LH SHOWN)

**SUPERIOR USA ASSEMBLY PART NO. 30021-07000 (LH) or 30026-07000 (RH)
for PINES #1 ¼ or #2**

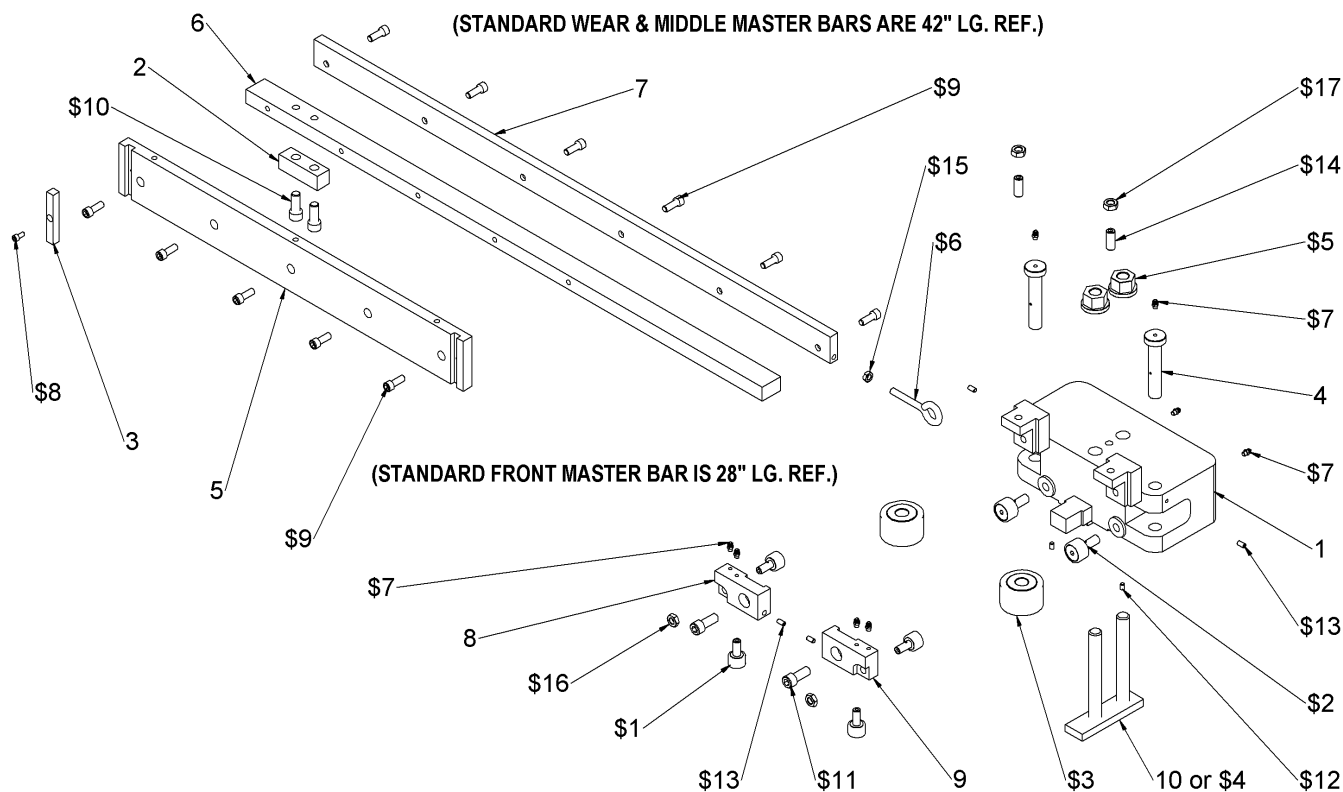
**EXTENDED 20 1/4" CLR TOGGLE LINK SWING ARM ASSEMBLY (or C/D ARM)
(MECHANICAL DETAILS ONLY – LH SHOWN)**

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	30021-07200	112-21-072-00	1	Swing Arm Weldment – LH (CCW)
1 (RH)	30026-07200	112-26-072-00	1	Swing Arm Weldment – RH (CW)
2	30011-29500	112-11-295-00	1	Gib, Slide
3	30010-43000	112-10-430-00	4	Toggle Link (w/ 2 Bushings Installed)
3-A	30010-43000-BB	(if sold separately)	8	Bushing Only, Toggle Link (ID Sizing Req'd)
4	30010-50400	112-10-504-00	1	Pin – Upper Rear (Includes \$7 & \$8)
5	30010-50401	112-10-504-01	1	Pin – Clevis (Includes \$6)
6	30010-50600	112-10-506-00	1	Pin – Rod End (Includes \$7 & \$8)
7	30010-51000	112-10-510-00	1	Pin – Slide (Includes \$7 & \$8)
8	30010-65200	112-10-652-00	1	Rod End – Clamp Cylinder
9 (LH)	30011-72500	112-11-725-00	1	Slide – Ampco Bronze, LH (used on LH only)
9 (RH)	30026-72500	112-26-725-00	1	Slide – Ampco Bronze, RH (used on RH only)
10	30011-80501	112-11-805-01	1	Clamp Bar – Left Side
11	30011-80502	112-11-805-02	1	Clamp Bar – Right Side
12	30011-80700	112-11-807-00	2	Wear Strip - Slide
13	30010-15500	112-10-155-00	1	Slide Hold Down Block – Swing Arm
14	30010-15501	112-10-155-01	1	Wear Strip – Slide Hold Down
15	30009-41700	112-09-417-00	1	Key – Bend Die
16	30009-81600	112-09-816-00	1	Stud – Bend Die (No Overhead Tie Option)
17	30009-94000	112-09-940-00	1	Thrust Washer – Lower Bearing
18	30009-99000	112-09-990-00	1	Castle Locknut – Spindle Bearing
19	30011-02000	112-11-020-00	1	Safety Plate (20.25" CLR Toggle Link Arm)
20	30020-42300	112-20-423-00	1	Key – Front Drive Sprocket
21	30020-62800	112-20-628-00	1	Bend Die Locating Ring – Outer
22	30020-64000	112-20-640-00	1	Bend Die Locating Ring – Inner
23	30020-76500	112-20-765-00	1	Drive Sprocket – Front (Tapered Bore Style)
24	30020-83100	112-20-831-00	1	Lower Arm Support Bracket
25	30040-07501	112-40-075-01	1	Overtravel Switch Trip Plate
26	30040-07502	112-40-075-02	1	Spacer – Overtravel Plate
27	30009-15500	112-09-155-00	1	Slide Back-up Block – 1" (Not Shown)
28	30009-15501	112-09-155-01	1	Slide Back-up Block – 2" (Not Shown)
29	30009-15502	112-09-155-02	1	Slide Back-up Block – 3" (Not Shown)
30	30009-15503	112-09-155-03	1	Slide Back-up Block – 4" (Not Shown)
31	30009-15504	112-09-155-04	1	Slide Back-up Block – 5" (Not Shown)
32	30009-15505	112-09-155-05	2	Slide Back-up Block – 6" (Not Shown)
33	30009-07700	(None)	1	Switch Trip Bracket Assy. – Arm Closed (for all)
34	30009-17100	(None)	1	Prox. Switch Bracket – Arm Closed (for all arms)
35	30011-01300	(None)	1	Switch Bracket – Safety Plate Trip (for all arms)
36	30011-02300	(None)	1	Switch Bracket – Safety Plate Trip (for extended)
\$1	30024-24200	112-24-242-00	1	Hydraulic Cylinder (Less fittings)
\$2	47890 / 47820	(Std. Purchase)	1 Set	Upper Spindle Cone / Cup Bearing Set
\$3	575 / 572	(Std. Purchase)	1 Set	Lower Spindle Cone / Cup Bearing Set
\$4	AN-16	(Std. Purchase)	2	Bearing Locknut (for Tapered Drive Sprocket)
\$5	LC-150P-18	(Not Pines Std.)	4	Platform Mount (Not used on all designs)
\$6 - \$37	(Call for info)		N/A	Standard Purchase Components & Fasteners



KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	30050-13500-SP	112-50-135-00	1	Block, Clamp Die Holder (LH machine only)
1 (RH)	30050-13501-SP	112-50-135-01	1	Block, Clamp Die Holder (RH machine only)
2	30050-31501	112-50-315-01	1	Half Round – Slotted Style
3	30050-31500	112-50-315-00	1	Half Round – Round Boss Style (for early Pines)
\$1	1-903-41405	(Std. Purchase)	2	3/8"-16 T-Nut (TECO #TN-500)
\$2	1-903-41607	(Std. Purchase)	2	3/4"-10 Hex Flange Nut (TECO #FN-34)
\$3	1-903-46602	(Std. Purchase)	2	3/4"-10 x 3 1/2" Lg. T-Bolt (TECO)
\$4	(Std.)	(Std. Purchase)	2	3/8"-16 S.H.C.S. x 1" Lg.

Superior USA, LLC represented by:
Horn Machine Tools, Inc. 40455 Brickyard Drive, Madera, CA 93636 USA
 Phone: 559-431-4131 * Fax: 559-431-4431 * Web: www.hornmachinetools.com

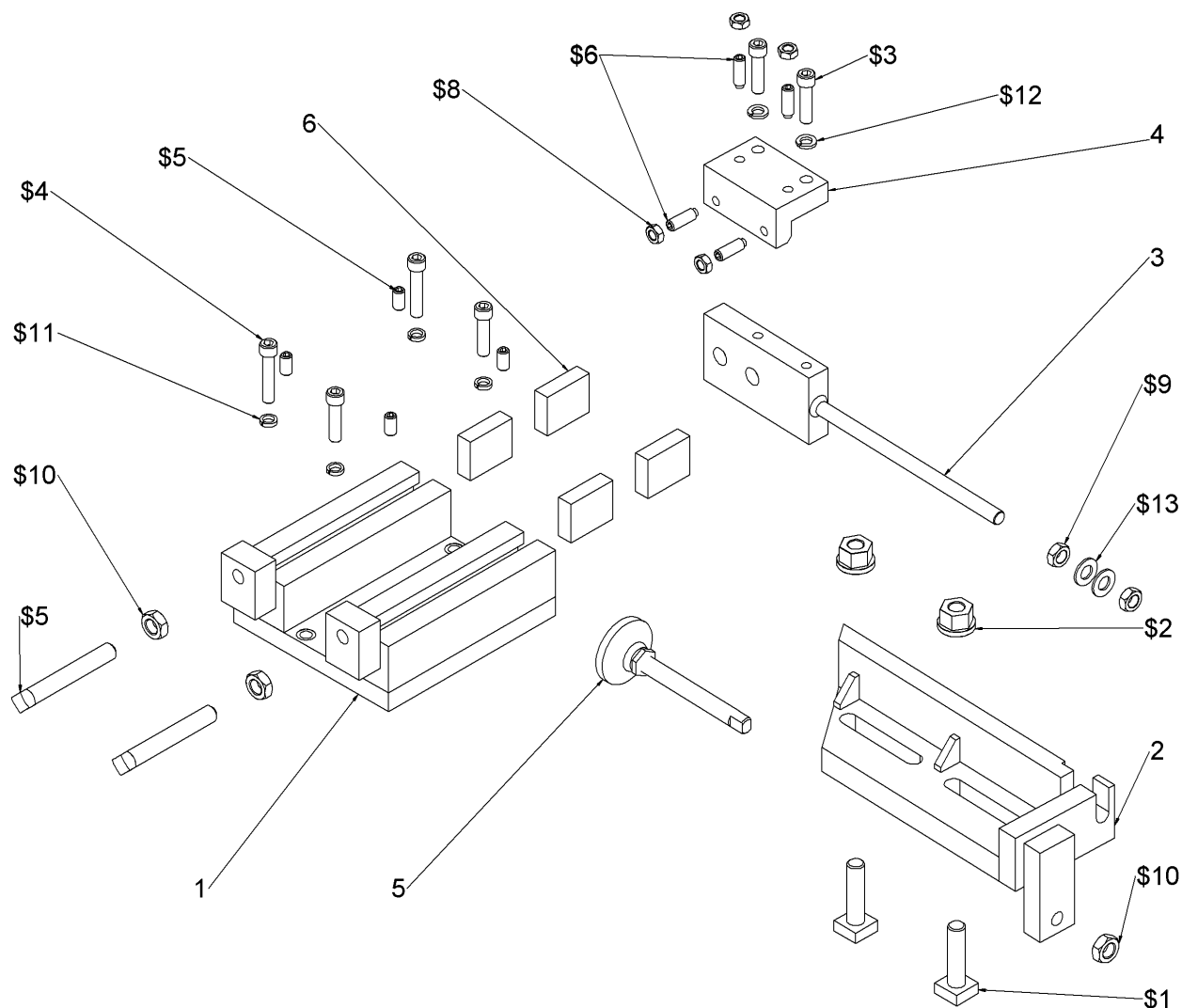


SUPERIOR USA ASSEMBLY PART NO. 30052-34502 (LH) or 30052-34503 (RH) for PINES #1 ¼ or #2
PRESSURE DIE HOLDER ASSEMBLY (LH SHOWN, RH USES SAME DETAILS)

PRESSURE DIE HOLDER ASSEMBLY for PINES #1 ¼ or #2 (LH SHOWN)

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1	30052-14502	112-52-145-02	1	Block, Pressure Die Holder (LH or RH)
2	30052-15515	112-52-155-15	1	Stop Block - Master Bar
3	30052-42002	112-52-420-02	1	Key - Master Bar
4	30052-50000	112-52-500-00	2	Pin - Pressure Die
5	30052-53000	112-52-530-00	1	Master Bar - Front (For 12" CLR Machine)
6	30052-53001	112-52-530-01	1	Master Bar - Middle (For 12" CLR Machine)
7	30052-53002	112-52-530-02	1	Master Bar - Wear (For 12" CLR Machine)
8	30052-82800	112-52-828-00	1	Support Block, P/D - Left Side
9	30052-82801	112-52-828-01	1	Support Block, P/D - Right Side
10	30052-88100	112-52-881-00	1	T-Bolt Assembly - P/D Holder
\$2	CF-1-SB	(Std. Purchase)	4	Cam Follower Bearing
\$3	CF-1 1/4-SB	(Std. Purchase)	2	Cam Follower Bearing
\$3	CRY-2 1/2-S	(Std. Purchase)	2	Cam Yoke Roller Bearing
\$4 - \$17	(Call for info)	(Std. Purchase)	N/A	Standard Purchase Components & Fasteners

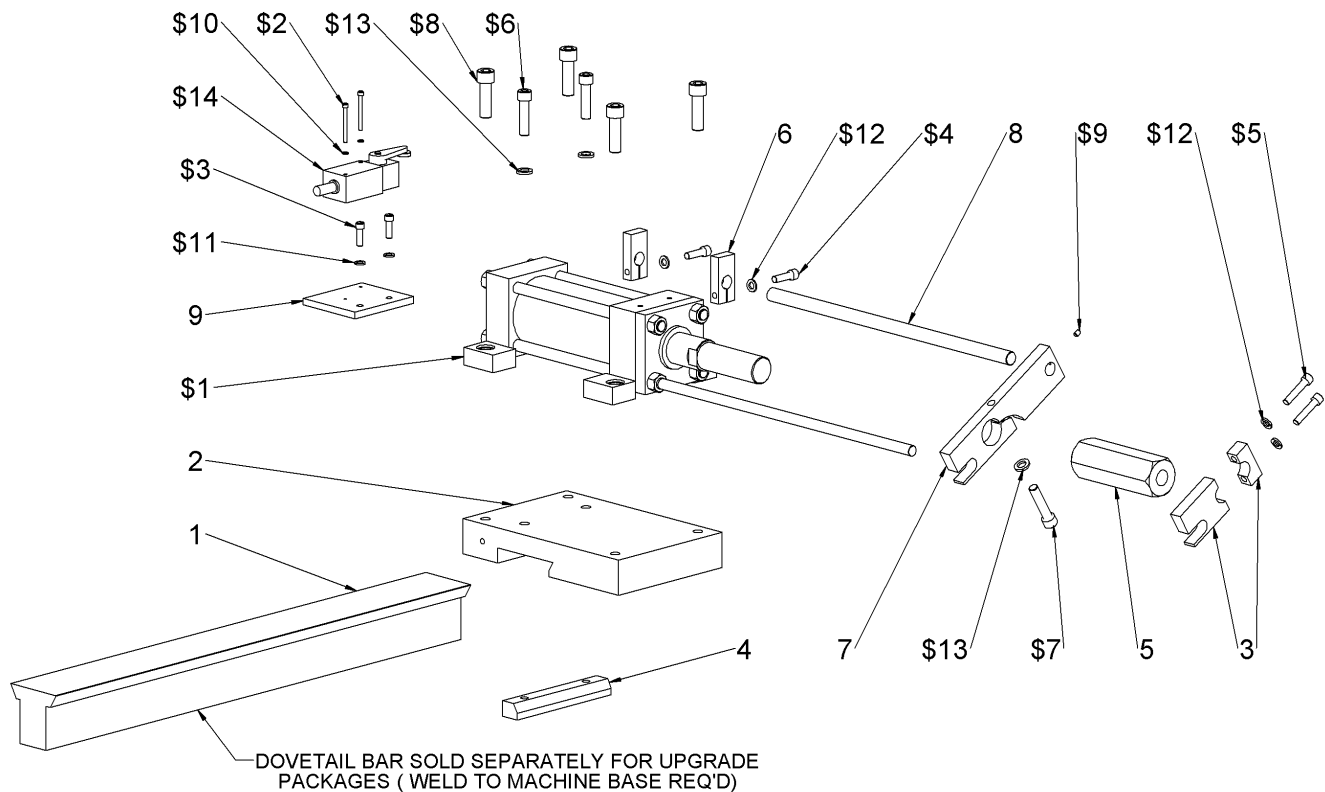
(Details 2, 3, 5, 6, 7, \$6, \$8, \$9, \$10, & \$15 also sold as Master Bar Assembly ref. Pt# 30052-44900)



SUPERIOR USA ASSEMBLY PART NO. 30056-35026 (LH) or 30057-35026 (RH) for PINES #1 1/4 or #2
STANDARD WIPER DIE HOLDER ASSEMBLY (LH SHOWN)

STANDARD WIPER DIE HOLDER ASSEMBLY for PINES #1 ¼ or #2 (LH SHOWN)

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1	30056-35027	112-56-350-27	1	Base, "X" Axis Adjustment - WDH
2 (LH)	30056-35028	112-56-350-28	1	Bracket, "Y" Axis Adj. (LH machine only)
2 (RH)	30057-35028	112-57-350-28	1	Bracket, "Y" Axis Adj. (RH machine only)
3	30056-53002	112-56-530-02	1	Wiper Die Holder Plate
4	30056-36500	112-56-365-00	1	Hanger Bracket - WDH
5	30056-83310	112-56-833-10	1	Back-Up Screw, "Y" Axis - WDH
6	30056-83320	112-56-833-20	4	Back-Up Block, "X" Axis - WDH
\$1 - \$13	(Contact for info)	(Std. Purchase)	N/A	Standard Purchase Components & Fasteners



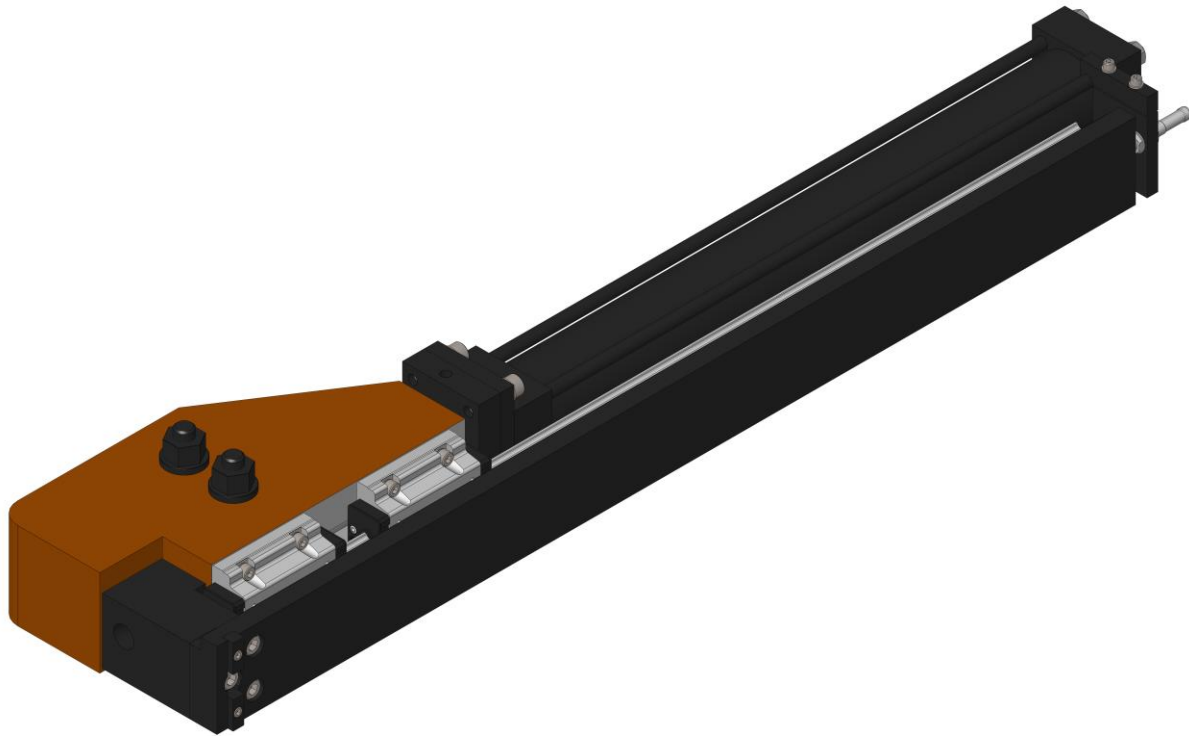
SUPERIOR USA ASSEMBLY PART NO. 30062-26500 for PINES #1 ¼ or #2

STANDARD 6" STROKE MANDREL EXTRACTOR ASSEMBLY (for LH or RH MACHINES)

**STANDARD MANDREL EXTRACTOR ASSEMBLY for PINES #1 ¼ or #2
(MECHANICAL DETAILS SHOWN ONLY, CONTACT FOR COMPLETE PACKAGE)**

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1	30030-60506	112-30-605-06	1	Dovetail Bar (Sold separately for upgrade pkg.)
2	30060-14013	112-60-140-13	1	Base Plate – Mandrel Extractor
3	30060-21500	112-60-215-00	1	Anti-Rotate Bracket – Mandrel Rod
4	30060-29507	112-60-295-07	1	Locking Gib – Mandrel Base (Tapped style)
5	30060-87005	112-60-870-05	1	Turnbuckle – Mandrel Rod (1"-8 Thd. Std.)
6	30062-01600	112-62-016-00	2	Switch Dog – Mandrel Cylinder
7	30062-06200	112-62-062-00	1	Anti-Rotate Bracket – Cylinder Rod
8	30062-06300	112-62-063-00	1	Rod – Switch Dog
9	30062-06600	112-62-066-00	1	Switch Bracket – Retract / Extend
\$1	30000-24202	112-00-242-02	1	Hydraulic Cylinder (Standard size less fittings)
\$2 - \$14	(Contact for info)	(Std. Purchase)	N/A	Standard Purchase Components & Fasteners

(Contact us for information on reverse guided mandrel extractors and special designs also!)



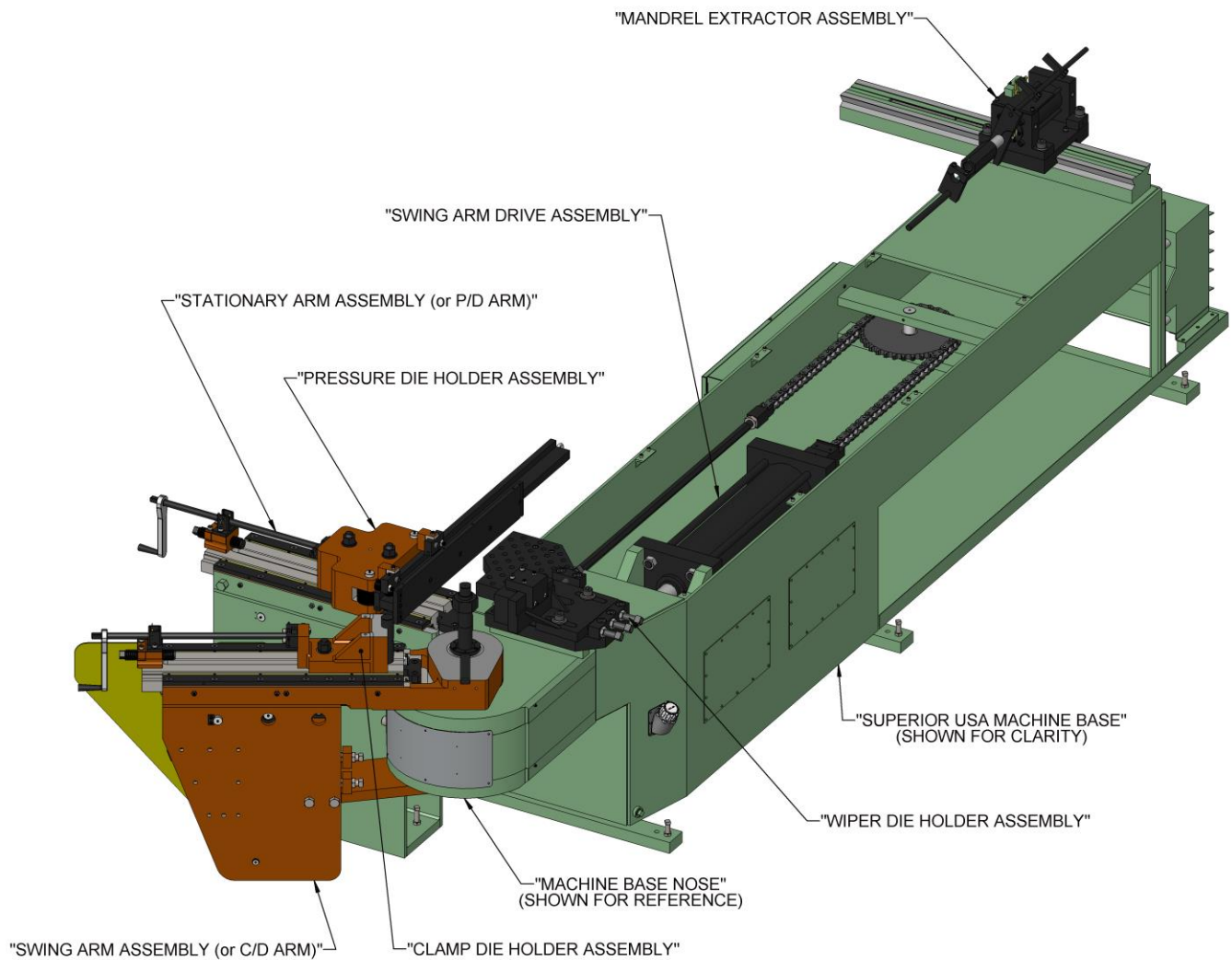
SUPERIOR USA ASSEMBLY PART NO. 30052-34600 (LH) or 30053-34600 (RH) for PINES #1 ¼ or #2
PRESSURE DIE ASSIST (PDA) ASSEMBLY (LH w/ 24" STROKE SHOWN, 30" STROKE ALSO STD.)

UPGRADE PRESSURE DIE ASSIST ASSEMBLY for PINES #1 ¼ or #2 (LH SHOWN)

We offer a “PDA” Assembly upgrade package for your Pines #1 ¼ or #2 tube and pipe bender to help your machine bend tight radius, stainless steel, and thin wall tubing applications with improved quality while reducing wall thinning. We incorporate a low-profile design with an in-line cylinder actuation which is available in various standard and non-standard stroke lengths. Packages can also include hydraulic valve bank and control interface upgrades for machines which were built with a standard free-floating pressure die holder. These assemblies can also be equipped with linear encoding sensors and a proportional valve bank for speed control with CNC machine controllers.

SupUSA PART NO. (L.H. MACHINES)	SupUSA PART NO. (R.H. MACHINES)	DESCRIPTION
30052-34600-24IN	30053-34600-24IN	24" Stroke Pressure Die Assist (PDA) Assembly – Mechanical Only
30052-35600-30IN	30053-35600-30IN	30" Stroke Pressure Die Assist (PDA) Assembly – Mechanical Only
30052-36600-xxIN	30053-36600-xxIN	Special Length Stroke PDA Assembly – Mechanical Only
30052-34600-HVB	30052-34600-HVB	Hydraulic Valve Bank & Control Interface Package for PDA Ass'y

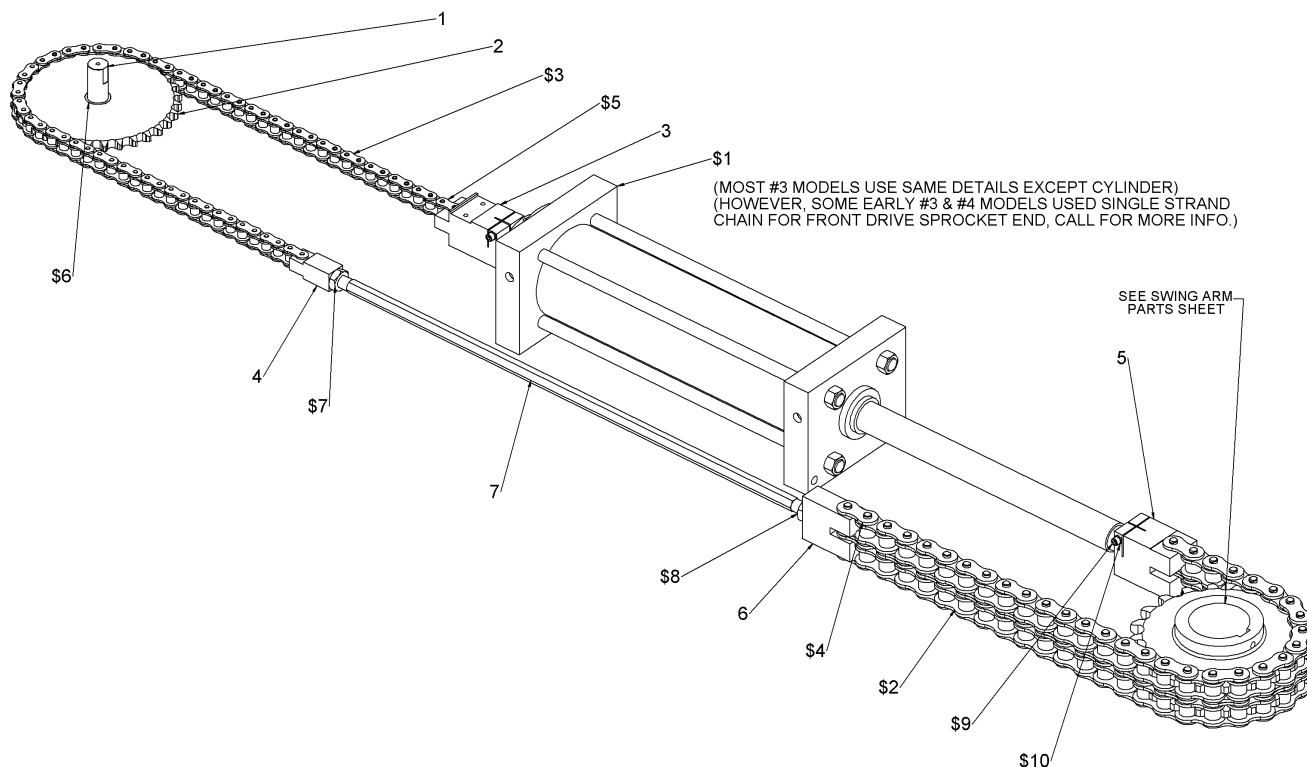
SUB-ASSEMBLY CALL-OUTS FOR PINES ROTARY TUBE & PIPE BENDERS



SupUSA 600 LEFT HAND ROTARY DRAW BENDER SHOWN REF.
(PARTS ARE DIRECT FIT TO A PINES #3 or #4 NC BENDER REF.)

PINES #3 & #4 TUBE & PIPE BENDERS

5/21/2019

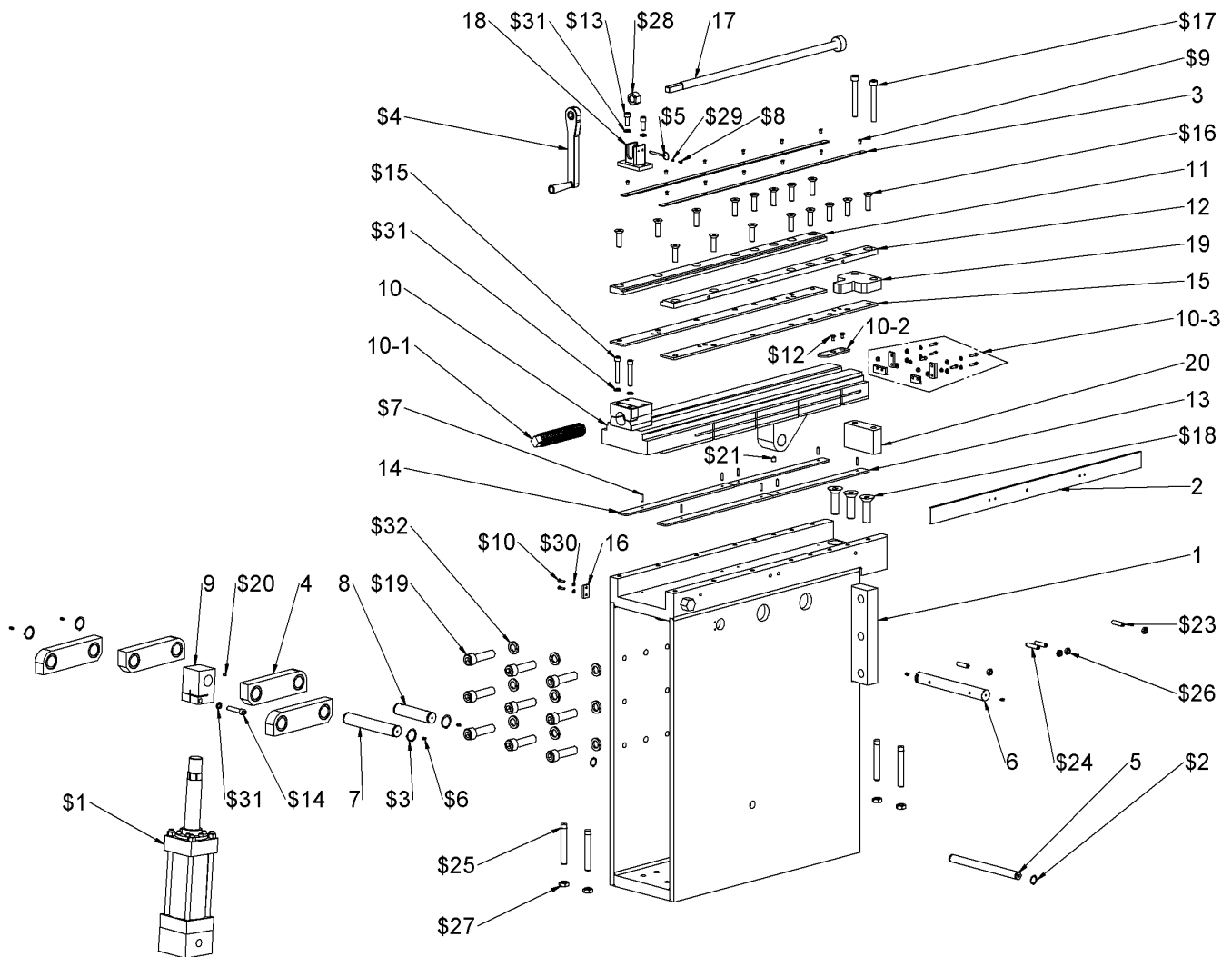


SUPERIOR USA ASSEMBLY PART NO. 55009-01000 (LH) or 55009-01001 (RH) for PINES #3
SUPERIOR USA ASSEMBLY PART NO. 60009-01000 (LH) or 60009-01001 (RH) for PINES #4

STANDARD SWING ARM DRIVE ASSEMBLY (LH #4 SIZE SHOWN)

STANDARD SWING ARM DRIVE ASSEMBLY for PINES #3 or #4 (MECHANICAL DETAILS ONLY – #4 LH SHOWN)

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1	60009-50000	114-09-500-00	1	Pin, Rear Drive Sprocket
2	60009-76500	114-09-765-00	1	Rear Drive Sprocket (Includes Detail \$6 Installed)
3	60009-86000	114-09-860-00	1	Rod End, Bend Cylinder – Rear
4	60009-86001	114-09-860-01	1	Rod End, Turnbuckle – Rear (RH Thread)
5	60009-86002	114-09-860-02	1	Rod End, Bend Cylinder – Front
6	60009-86003	114-09-860-03	1	Rod End, Turnbuckle – Front (LH Thread)
7	60009-87000	114-09-870-00	1	Turnbuckle, Drive Chain
\$1 (#4)	60045-24200	114-45-242-00	1	Hydraulic Cylinder for #4 Model (less fittings)
\$1 (#3)	55045-24200	114-45-241-00	1	Hydraulic Cylinder for #3 Model (less ftg's)
\$2	RS200-2 X 29	(Std. Purchase)	1	ANSI #RS200-2 Cotteder Roller Chain x 29 Links
\$3	RS120 X 61	(Std. Purchase)	1	ANSI #RS120 Cotteder Roller Chain x 61 Links
\$4	RS200-2 CL	(Std. Purchase)	2	ANSI #RS200-2 Roller Chain Connecting Link
\$5	RS120 CL	(Std. Purchase)	2	ANSI #RS120 Roller Chain Connecting Link
\$6	CB324020	(Std. Purchase)	1	Bronze Bushing (Requires sizing after install)
\$7	(Std.)	(Std. Purchase)	1	1 1/4"-7 R.H. Heavy Hex Jam Nut – Plated
\$8	(Std.)	(Std. Purchase)	1	1 1/4"-7 L.H. Heavy Hex Jam Nut – Plated
\$9	(Std.)	(Std. Purchase)	2	1/2"-13 S.H.C.S. x 3 1/2" Lg.
\$10	(Std.)	(Std. Purchase)	2	1/2" Nom. Dia. Medium Spring Lock Washer

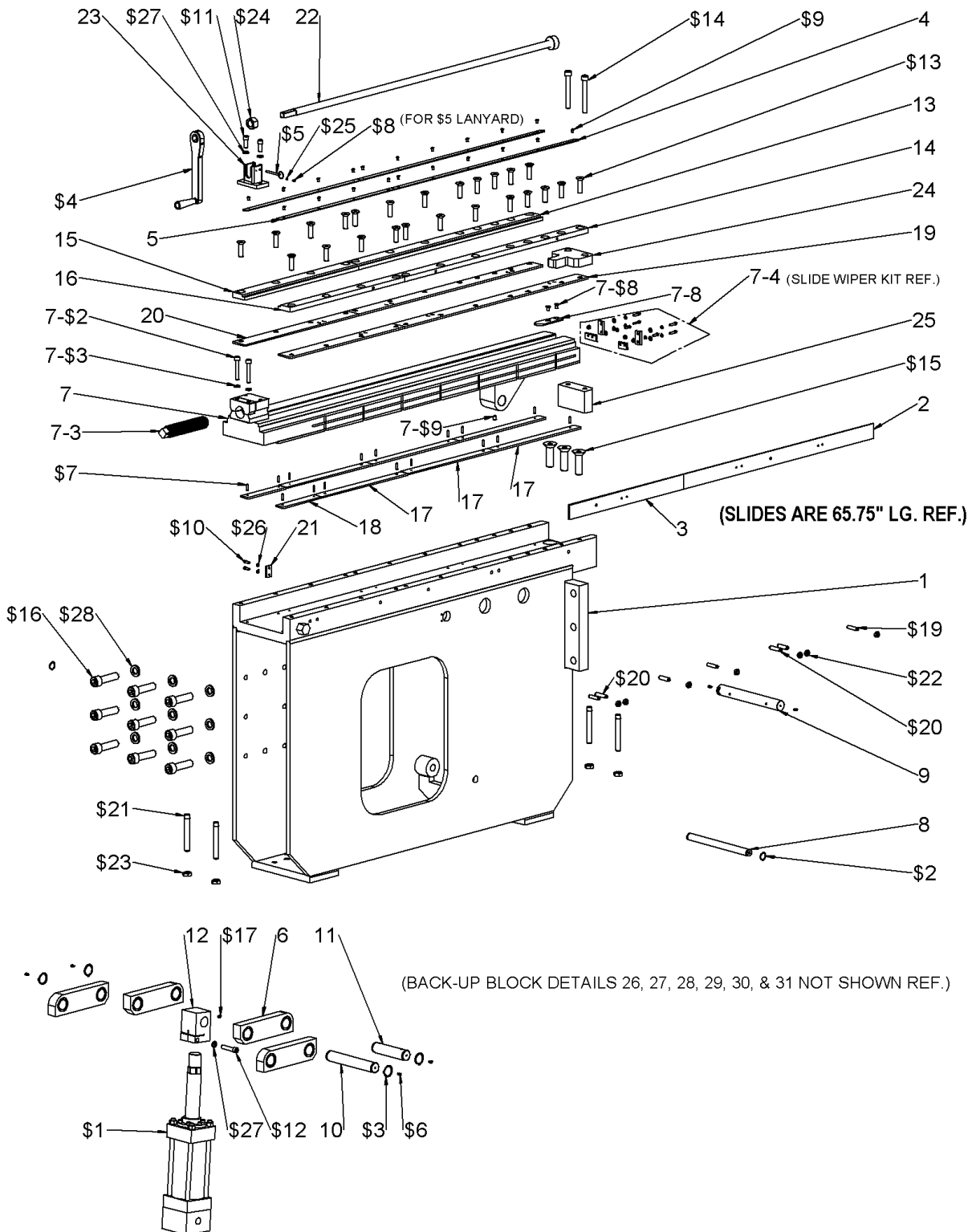


SUPERIOR USA ASSEMBLY PART NO. 60010-06500 (LH) or 60010-06501 (RH) for PINES #3 or #4
STANDARD 24" CLR TOGGLE LINK STATIONARY ARM (or P/D ARM) (LH SHOWN)

**SUPERIOR USA ASSEMBLY PART NO. 60010-06500 (LH) or 60010-06501 (RH)
for PINES #3 or #4**

**STANDARD 24" CLR TOGGLE LINK STATIONARY ARM ASSEMBLY (or P/D ARM)
(MECHANICAL DETAILS ONLY – LH SHOWN)**

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	60010-06700	114-10-067-00	1	Stationary Arm Weldment – LH (CCW)
1 (RH)	60010-06701	114-10-067-01	1	Stationary Arm Weldment – RH (CW)
2	60010-29500	114-10-295-00	1	Gib, Slide
3	60010-30700	114-10-307-00	2	Slide Guard - Brass
4	60010-43000	114-10-430-00	4	Toggle Link (w/ 2 Bushings Installed)
4-1	60010-43000-BB	(if sold separately)	8	Bushing Only, Toggle Link (ID Sizing Req'd)
5	60010-50401	114-10-504-01	1	Pin – Clevis (Includes \$2)
6	60010-50402	114-10-504-02	1	Pin – Upper Rear (Includes \$6)
7	60010-50600	114-10-506-00	1	Pin – Rod End (Includes \$3 & \$6)
8	60010-51000	114-10-510-00	1	Pin – Slide (Includes \$3 & \$6)
9	60010-65200	114-10-652-00	1	Rod End – Clamp Cylinder
10	60010-72400	114-10-724-00	1	Slide – Steel / Phenolic, LH (used on LH & RH)
10-1	60010-68600	114-10-686-00	1	Acme Back-up Screw (if sold separately)
10-2	60011-01900	(if sold separately)	1	Wear Plate – Slide Hold Down
10-3	60010-72400-WK	(if sold separately)	1	Wiper Kit for Slide (Wipers, Spacers, & Screws)
11	60010-80501	114-10-805-01	1	Clamp Bar – Left Side
12	60010-80502	114-10-805-02	1	Clamp Bar – Right Side
13	60010-80701	114-10-807-01	2	Wear Strip, Slide – Short
14	60010-80702	114-10-807-02	2	Wear Strip, Slide – Long
15	60010-80705	114-10-807-05	2	Wear Strip – Clamp Bar, Phenolic
16	60020-62500	114-20-625-00	1	Keeper Plate – Pin
17	60009-68705	114-09-687-05	1	Threaded Rod Adjuster
18	60009-82700	114-09-827-00	1	Holder – Threaded Rod Adjuster
19	60011-01400	114-11-014-00	1	Slide Hold Down Block – Stationary Arm
20	60011-01600	114-11-016-00	1	Slide Hold Down Riser – Stationary Arm
21	60009-15500	114-09-155-00	1	Slide Back-up Block – 2" (Not Shown)
22	60009-15501	114-09-155-01	1	Slide Back-up Block – 3" (Not Shown)
23	60009-15502	114-09-155-02	1	Slide Back-up Block – 4" (Not Shown)
24	60009-15503	114-09-155-03	1	Slide Back-up Block – 5" (Not Shown)
25	60009-15504	114-09-155-04	1	Slide Back-up Block – 6" (Not Shown)
26	60009-15505	114-09-155-05	1	Slide Back-up Block – 7" (Not Shown)
\$1	60024-24200	114-24-242-00	1	Hydraulic Cylinder (Less fittings)
\$2 - \$31	(Call for info)		N/A	Standard Purchase Components & Fasteners

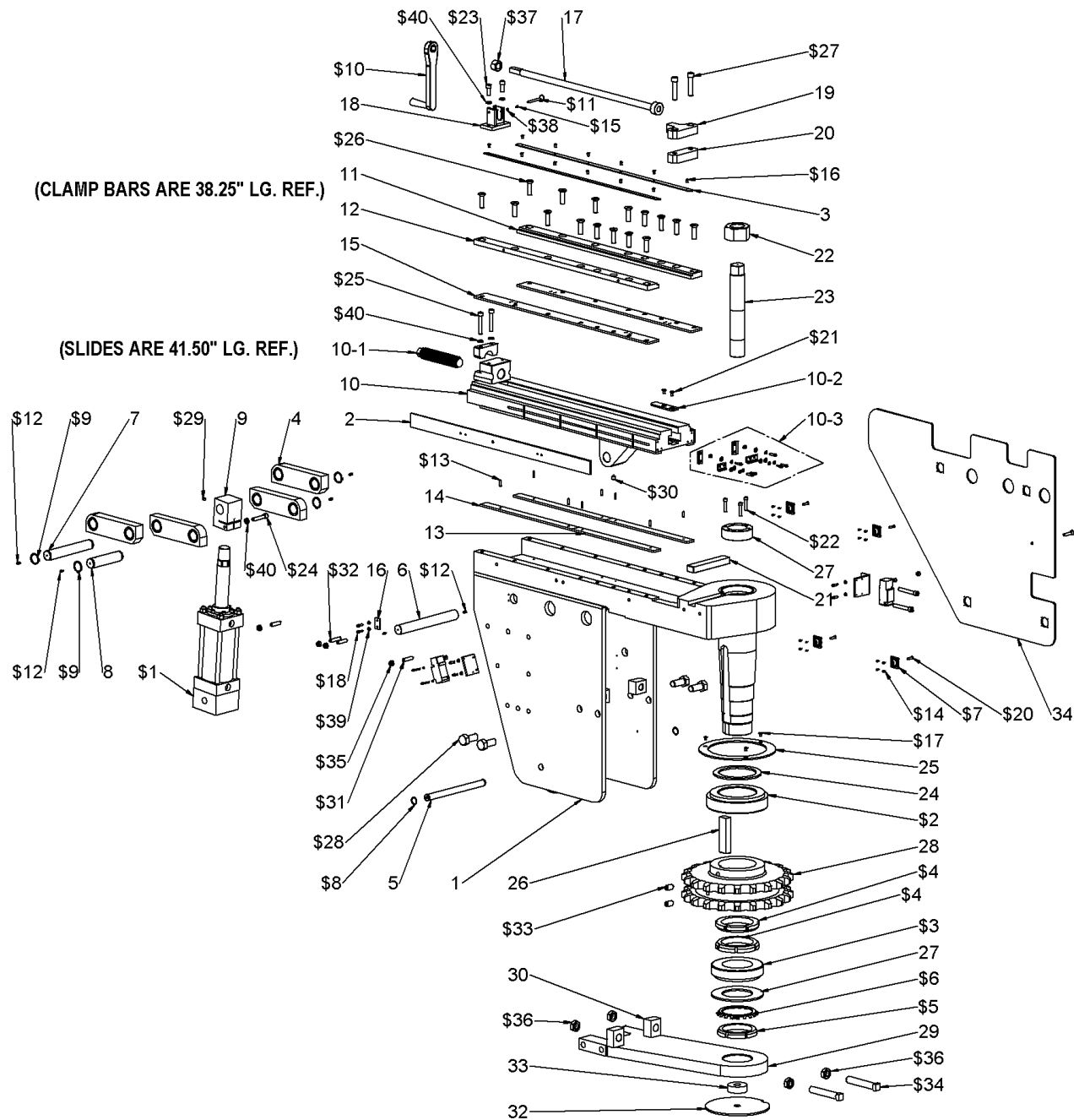


SUPERIOR USA ASSEMBLY PART NO. 60011-06500 (LH) or 60011-06501 (RH) for PINES #3 or #4
 EXTENDED 48" CLR TOGGLE LINK STATIONARY ARM (or P/D ARM) (LH SHOWN)

**SUPERIOR USA ASSEMBLY PART NO. 60011-06500 (LH) or 60011-06501 (RH)
for PINES #3 or #4**

**EXTENDED 48" CLR TOGGLE LINK STATIONARY ARM ASSEMBLY (or P/D ARM)
(MECHANICAL DETAILS ONLY – LH SHOWN)**

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	60011-06700	114-11-067-00	1	Stationary Arm Weldment – LH (CCW)
1 (RH)	60011-06701	114-11-067-01	1	Stationary Arm Weldment – RH (CW)
2	60010-29500	114-10-295-00	1	Gib, Slide - Bronze
3	60011-29500	114-11-295-00	1	Gib Extension, Slide – Bronze (48" CLR)
4	60010-30700	114-10-307-00	2	Slide Guard - Brass
5	60011-30700	114-11-307-00	2	Slide Guard Extension – Brass (48" CLR)
6-1	60010-43000	114-10-430-00	4	Toggle Link (w/ 2 Bushings Installed)
6-2	60010-43000-BB	(if sold separately)	8	Bushing Only, Toggle Link (ID Sizing Req'd)
7	60011-72400	114-11-724-00	1	Slide – Steel / Phenolic, LH (used on LH & RH)
7-1	60010-68600	114-10-686-00	1	Acme Back-up Screw (if sold separately)
7-2	60011-01900	(if sold separately)	1	Wear Plate – Slide Hold Down
7-3	60010-72400-WK	(if sold separately)	1	Wiper Kit for Slide (Wipers, Spacers, & Screws)
8	60010-50401	114-10-504-01	1	Pin – Clevis (Includes \$2)
9	60010-50402	114-10-504-02	1	Pin – Upper Rear (Includes \$6)
10	60010-50600	114-10-506-00	1	Pin – Rod End (Includes \$3 & \$6)
11	60010-51000	114-10-510-00	1	Pin – Slide (Includes \$3 & \$6)
12	60010-65200	114-10-652-00	1	Rod End – Clamp Cylinder
13	60010-80501	114-10-805-01	1	Clamp Bar – Left Side
14	60010-80502	114-10-805-02	1	Clamp Bar – Right Side
15	60011-80501	114-11-805-01	1	Clamp Bar Extension – Left Side
16	60011-80502	114-11-805-02	1	Clamp Bar Extension – Right Side
17	60010-80701	114-10-807-01	6	Wear Strip, Slide – Short (Std. 24" CLR)
18	60011-80700	114-11-807-00	2	Wear Strip, Slide – Extension (48" CLR)
19	60010-80705	114-10-807-05	2	Wear Strip – Clamp Bar, Phenolic
20	60011-80704	114-11-807-04	2	Wear Strip Extension – Clamp Bar, Phenolic
21	60020-62500	114-20-625-00	1	Keeper Plate – Pin
22	60009-68714	114-09-687-14	1	Threaded Rod Adjuster (48" CLR Slide)
23	60009-82700	114-09-827-00	1	Holder – Threaded Rod Adjuster
24	60011-01400	114-11-014-00	1	Slide Hold Down Block – Stationary Arm
25	60011-01600	114-11-016-00	1	Slide Hold Down Riser – Stationary Arm
26	60009-15500	114-09-155-00	1	Slide Back-up Block – 2" (Not Shown)
27	60009-15501	114-09-155-01	1	Slide Back-up Block – 3" (Not Shown)
28	60009-15502	114-09-155-02	1	Slide Back-up Block – 4" (Not Shown)
29	60009-15503	114-09-155-03	1	Slide Back-up Block – 5" (Not Shown)
30	60009-15504	114-09-155-04	1	Slide Back-up Block – 6" (Not Shown)
31	60009-15505	114-09-155-05	4	Slide Back-up Block – 7" (Not Shown)
\$1	60024-24200	114-24-242-00	1	Hydraulic Cylinder (Less fittings)
\$2 - \$28	(Call for info)		N/A	Standard Purchase Components & Fasteners



SUPERIOR USA ASSEMBLY PART NO. 60020-07000 (LH) or 60025-07000 (RH) for PINES #3 or #4
STANDARD 24" CLR TOGGLE LINK SWING ARM (or C/D ARM) (LH SHOWN)

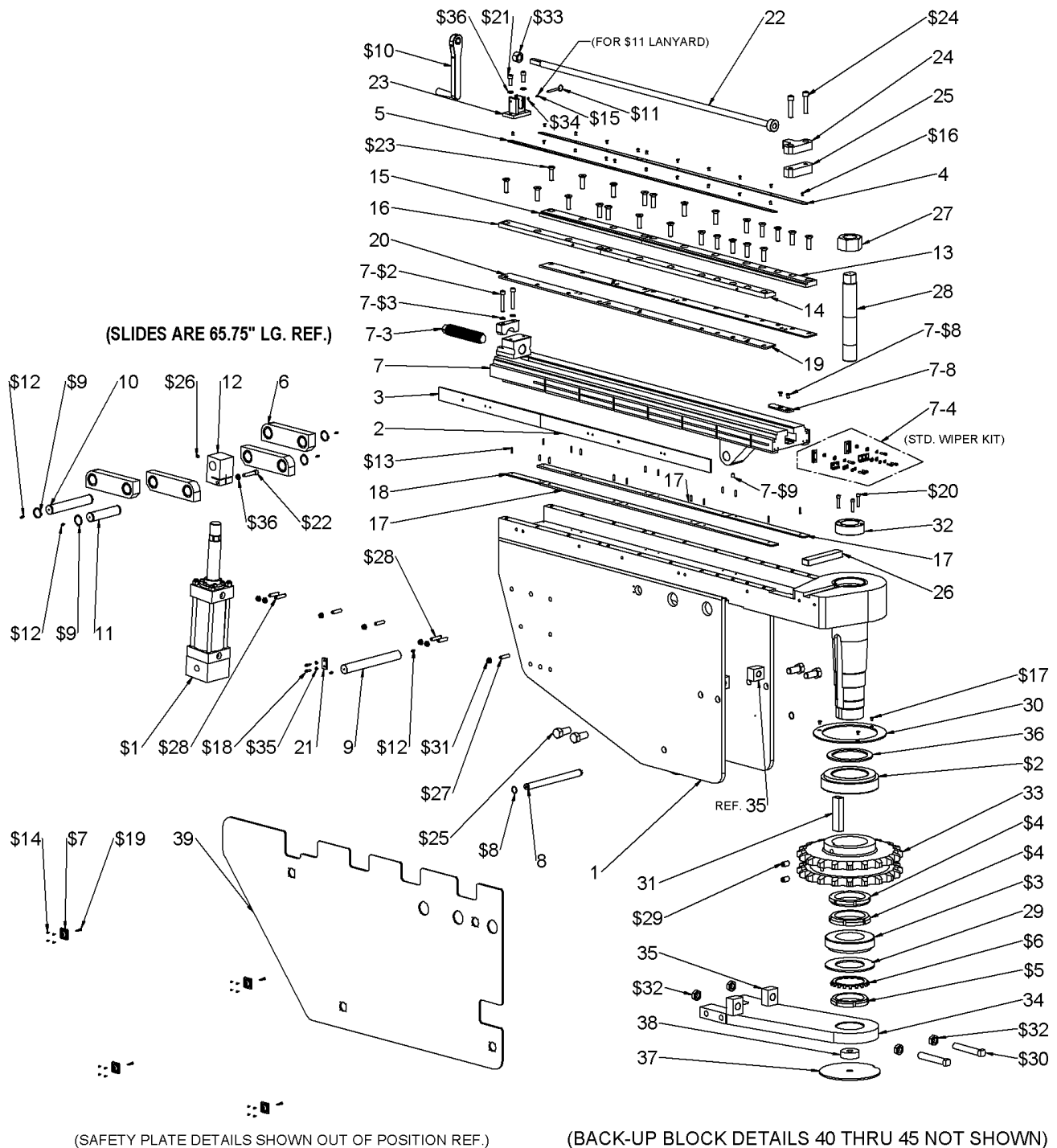
**STANDARD 24" CLR TOGGLE LINK SWING ARM ASSEMBLY (or C/D ARM)
(MECHANICAL DETAILS ONLY – LH SHOWN)**

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	60020-07200	114-20-072-00	1	Swing Arm Weldment – LH (CCW)
1 (RH)	60025-07200	114-25-072-00	1	Swing Arm Weldment – RH (CW)
2	60010-29500	114-10-295-00	1	Gib, Slide
3	60010-30700	114-10-307-00	2	Slide Guard - Brass
4	60010-43000	114-10-430-00	4	Toggle Link (w/ 2 Bushings Installed)
4-1	60010-43000-BB	(if sold separately)	8	Bushing Only, Toggle Link (ID Sizing Req'd)
5	60010-50401	114-10-504-01	1	Pin – Clevis (Includes \$7)
6	60010-50402	114-10-504-02	1	Pin – Upper Rear (Includes \$12)
7	60010-50600	114-10-506-00	1	Pin – Rod End (Includes \$8 & \$12)
8	60010-51000	114-10-510-00	1	Pin – Slide (Includes \$8 & \$12)
9	60010-65200	114-10-652-00	1	Rod End – Clamp Cylinder
10 (LH)	60010-72400	114-10-724-00	1	Slide – Steel / Phenolic, LH (used on LH only!)
10 (RH)	60025-72400	114-25-724-00	1	Slide – Steel / Phenolic, RH (used on RH only!)
10-1	60010-68600	114-10-686-00	1	Acme Back-up Screw (if sold separately)
10-2	60011-01900	(if sold separately)	1	Wear Plate – Slide Hold Down
10-3	60010-72400-WK	(if sold separately)	1	Wiper Kit for Slide (Wipers, Spacers, & Screws)
11	60010-80501	114-10-805-01	1	Clamp Bar – Left Side
12	60010-80502	114-10-805-02	1	Clamp Bar – Right Side
13	60010-80701	114-10-807-01	2	Wear Strip, Slide – Short
14	60010-80702	114-10-807-02	2	Wear Strip, Slide – Long
15	60010-80705	114-10-807-05	2	Wear Strip – Clamp Bar, Phenolic
16	60020-62500	114-20-625-00	1	Keeper Plate – Pin
17	60009-68705	114-09-687-05	1	Threaded Rod Adjuster
18	60009-82700	114-09-827-00	1	Holder – Threaded Rod Adjuster
19	60011-01311	114-11-013-11	1	Slide Hold Down Block – Swing Arm
20	60011-01500	114-11-015-00	1	Slide Hold Down Riser – Swing Arm
21	60009-41700	114-09-417-00	1	Key – Bend Die
22	60009-47500	114-09-475-00	1	Nut – Bend Die Stud
23	60009-81600	114-09-816-00	1	Stud – Bend Die (No Overhead Tie Option)
24	60009-94000	114-09-940-00	1	Lower Bearing Spacer – Swing Arm
25	60020-23600	114-20-236-00	1	Upper Bearing Cover – Swing Arm
26	60020-42300	114-20-423-00	1	Key – Front Drive Sprocket
27	60020-64000	114-20-640-00	1	Locating Ring – Bend Die
28	60020-76500	114-20-765-00	1	Drive Sprocket – Front (Tapered Bore Style)
29 (LH)	60020-83100	114-20-831-00	1	Lower Arm Support Bracket – LH (used on LH)
29 (RH)	60025-83100	114-25-831-00	1	Lower Arm Support Bracket – RH (used on RH)
30	60020-15511	114-20-155-11	2	Adjustment Block Kit – Lower Support (Welds)
31	60020-94100	114-20-941-00	1	Spacer – Upper Bearing
32	60040-07501	114-40-075-01	1	Overtravel Switch Trip Plate
33	60040-07502	114-40-075-02	1	Spacer – Overtravel Plate
34	60068-54401	114-68-544-00	1	Safety Plate (Not for all models, call for info)
35	60009-15500	114-09-155-00	1	Slide Back-up Block – 2" (Not Shown)
36	60009-15501	114-09-155-01	1	Slide Back-up Block – 3" (Not Shown)
37	60009-15502	114-09-155-02	1	Slide Back-up Block – 4" (Not Shown)
38	60009-15503	114-09-155-03	1	Slide Back-up Block – 5" (Not Shown)
39	60009-15504	114-09-155-04	1	Slide Back-up Block – 6" (Not Shown)
40	60009-15505	114-09-155-05	1	Slide Back-up Block – 7" (Not Shown)
\$1	60024-24200	114-24-242-00	1	Hydraulic Cylinder (Less fittings)
\$2	82587 / 82950	(Std. Purchase)	1 Set	Upper Spindle Cone / Cup Bearing Set
\$3	795 / 792	(Std. Purchase)	1 Set	Lower Spindle Cone / Cup Bearing Set
\$4	AN-26	(Std. Purchase)	2	Bearing Locknut (for Tapered Drive Sprocket)
\$5	AN-24	(Std. Purchase)	1	Bearing Locknut (for Lower Spindle Bearing)
\$6	W-24	(Std. Purchase)	1	Locknut Washer (for Lower Spindle Bearing)
\$7	LC-150P-18	(Not Pines Std.)	4	Platform Mount (Not used on all designs)
\$8 - \$41	(Call for info)		N/A	Standard Purchase Components & Fasteners

4-05-2

Superior USA, LLC represented by:

Horn Machine Tools, Inc. 40455 Brickyard Drive, Madera, CA 93636 USA
Phone: 559-431-4131 * Fax: 559-431-4431 * Web: www.hornmachinetools.com



SUPERIOR USA ASSEMBLY PART NO. 60021-07000 (LH) or 60026-07000 (RH) for PINES #3 or #4
 EXTENDED 48" CLR TOGGLE LINK SWING ARM (or C/D ARM) (LH SHOWN)

**EXTENDED 48" CLR TOGGLE LINK SWING ARM ASSEMBLY (or C/D ARM)
(MECHANICAL DETAILS ONLY – LH SHOWN)**

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	60021-07200	114-21-072-00	1	Swing Arm Weldment – LH (CCW Bender)
1 (RH)	60026-07200	114-26-072-00	1	Swing Arm Weldment – RH (CW Bender)
2	60010-29500	114-10-295-00	1	Gib, Slide - Bronze
3	60011-29500	114-11-295-00	1	Gib Extension, Slide – Bronze (48" CLR)
4	60010-30700	114-10-307-00	2	Slide Guard - Brass
5	60011-30700	114-11-307-00	2	Slide Guard Extension – Brass (48" CLR)
6-1	60010-43000	114-10-430-00	4	Toggle Link (w/ 2 Bushings Installed)
6-2	60010-43000-BB	(if sold separately)	8	Bushing Only, Toggle Link (ID Sizing Req'd)
7 (LH)	60011-72400	114-11-724-00	1	Slide – Steel / Phenolic, LH (used on LH only)
7 (RH)	60026-72400	114-26-724-00	1	Slide – Steel / Phenolic, RH (used on RH only)
7-1	60010-68600	114-10-686-00	1	Acme Back-up Screw (if sold separately)
7-2	60011-01900	(if sold separately)	1	Wear Plate – Slide Hold Down
7-3	60010-72400-WK	(if sold separately)	1	Wiper Kit for Slide (Wipers, Spacers, & Screws)
8	60010-50401	114-10-504-01	1	Pin – Clevis (Includes \$2)
9	60010-50402	114-10-504-02	1	Pin – Upper Rear (Includes \$6)
10	60010-50600	114-10-506-00	1	Pin – Rod End (Includes \$3 & \$6)
11	60010-51000	114-10-510-00	1	Pin – Slide (Includes \$3 & \$6)
12	60010-65200	114-10-652-00	1	Rod End – Clamp Cylinder
13	60010-80501	114-10-805-01	1	Clamp Bar – Left Side
14	60010-80502	114-10-805-02	1	Clamp Bar – Right Side
15	60011-80501	114-11-805-01	1	Clamp Bar Extension – Left Side
16	60011-80502	114-11-805-02	1	Clamp Bar Extension – Right Side
17	60010-80701	114-10-807-01	6	Wear Strip, Slide – Short (Std. 24" CLR)
18	60011-80700	114-11-807-00	2	Wear Strip, Slide – Extension (48" CLR)
19	60010-80705	114-10-807-05	2	Wear Strip – Clamp Bar, Phenolic
20	60011-80704	114-11-807-04	2	Wear Strip Extension – Clamp Bar, Phenolic
21	60020-62500	114-20-625-00	1	Keeper Plate – Pin
22	60009-68714	114-09-687-14	1	Threaded Rod Adjuster (48" CLR Slide)
23	60009-82700	114-09-827-00	1	Holder – Threaded Rod Adjuster
24	60011-01311	114-11-013-11	1	Slide Hold Down Block – Swing Arm
25	60011-01500	114-11-015-00	1	Slide Hold Down Riser – Swing Arm
26	60009-41700	114-09-417-00	1	Key – Bend Die
27	60009-47500	114-09-475-00	1	Nut – Bend Die Stud
28	60009-81600	114-09-816-00	1	Stud – Bend Die (No Overhead Tie Option)
29	60009-94000	114-09-940-00	1	Lower Bearing Spacer – Swing Arm
30	60020-23600	114-20-236-00	1	Upper Bearing Cover – Swing Arm
31	60020-42300	114-20-423-00	1	Key – Front Drive Sprocket
32	60020-64000	114-20-640-00	1	Locating Ring – Bend Die
33	60020-76500	114-20-765-00	1	Drive Sprocket – Front (Tapered Bore Style)
34 (LH)	60020-83100	114-20-831-00	1	Lower Arm Support Bracket – LH (used on LH)
34 (RH)	60025-83100	114-25-831-00	1	Lower Arm Support Bracket – RH (used on RH)
35	60020-15511	114-20-155-11	2	Adjustment Block Kit – Lower Support (Welds)
36	60020-94100	114-20-941-00	1	Spacer – Upper Bearing
37	60040-07501	114-40-075-01	1	Overtravel Switch Trip Plate
38	60040-07502	114-40-075-02	1	Spacer – Overtravel Plate
39	60068-54404	114-68-544-04	1	Safety Plate (Not for all models, call for info)
40	60009-15500	114-09-155-00	1	Slide Back-up Block – 2" (Not Shown)
41	60009-15501	114-09-155-01	1	Slide Back-up Block – 3" (Not Shown)
42	60009-15502	114-09-155-02	1	Slide Back-up Block – 4" (Not Shown)
43	60009-15503	114-09-155-03	1	Slide Back-up Block – 5" (Not Shown)
44	60009-15504	114-09-155-04	1	Slide Back-up Block – 6" (Not Shown)
45	60009-15505	114-09-155-05	4	Slide Back-up Block – 7" (Not Shown)

(Chart continued on next page ref.)

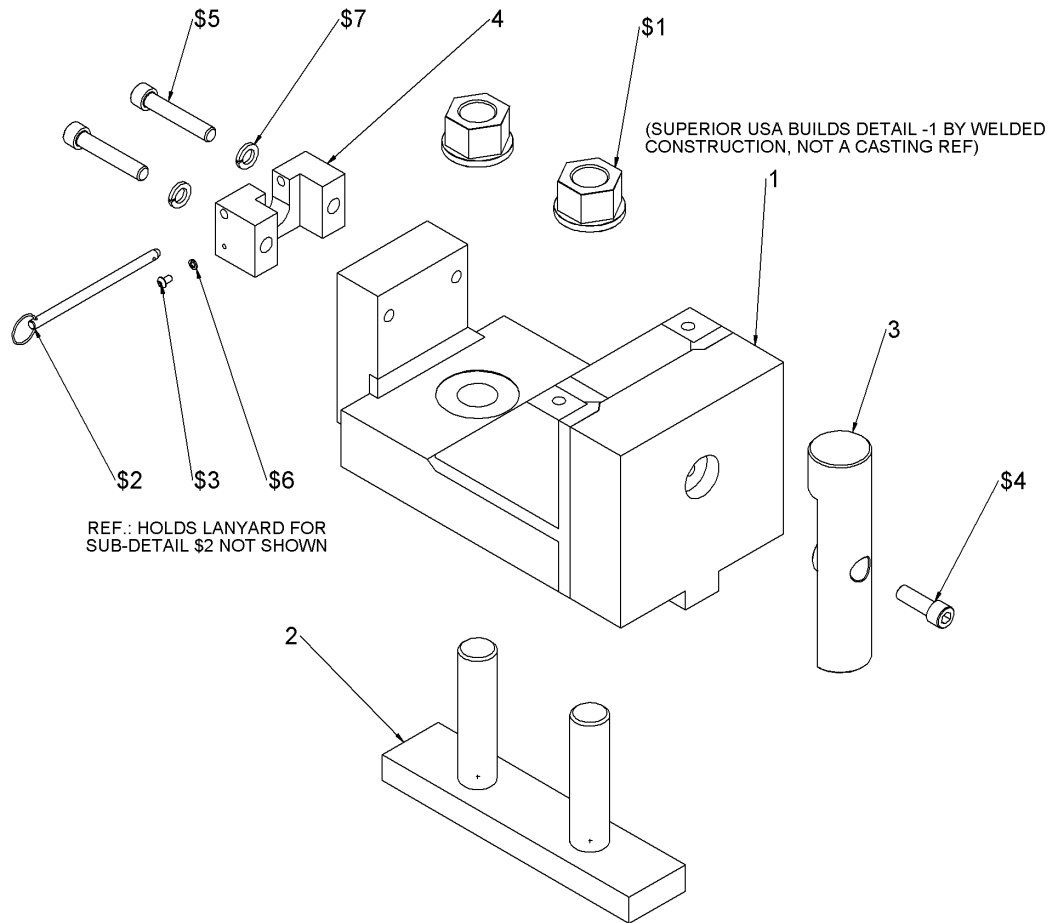
4-06-2

Superior USA, LLC represented by:

Horn Machine Tools, Inc. 40455 Brickyard Drive, Madera, CA 93636 USA
Phone: 559-431-4131 * Fax: 559-431-4431 * Web: www.hornmachinetools.com

**EXTENDED 48" CLR TOGGLE LINK SWING ARM ASSEMBLY (or C/D ARM)
(MECHANICAL DETAILS ONLY – LH SHOWN)**

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
\$1	60024-24200	114-24-242-00	1	Hydraulic Cylinder (Less fittings)
\$2	82587 / 82950	(Std. Purchase)	1 Set	Upper Spindle Cone / Cup Bearing Set
\$3	795 / 792	(Std. Purchase)	1 Set	Lower Spindle Cone / Cup Bearing Set
\$4	AN-26	(Std. Purchase)	2	Bearing Locknut (for Tapered Drive Sprocket)
\$5	AN-24	(Std. Purchase)	1	Bearing Locknut (for Lower Spindle Bearing)
\$6	W-24	(Std. Purchase)	1	Locknut Washer (for Lower Spindle Bearing)
\$7	LC-150P-18	(Not Pines Std.)	4	Platform Mount (Not used on all designs)
\$8 - \$36	(Call for info)		N/A	Standard Purchase Components & Fasteners

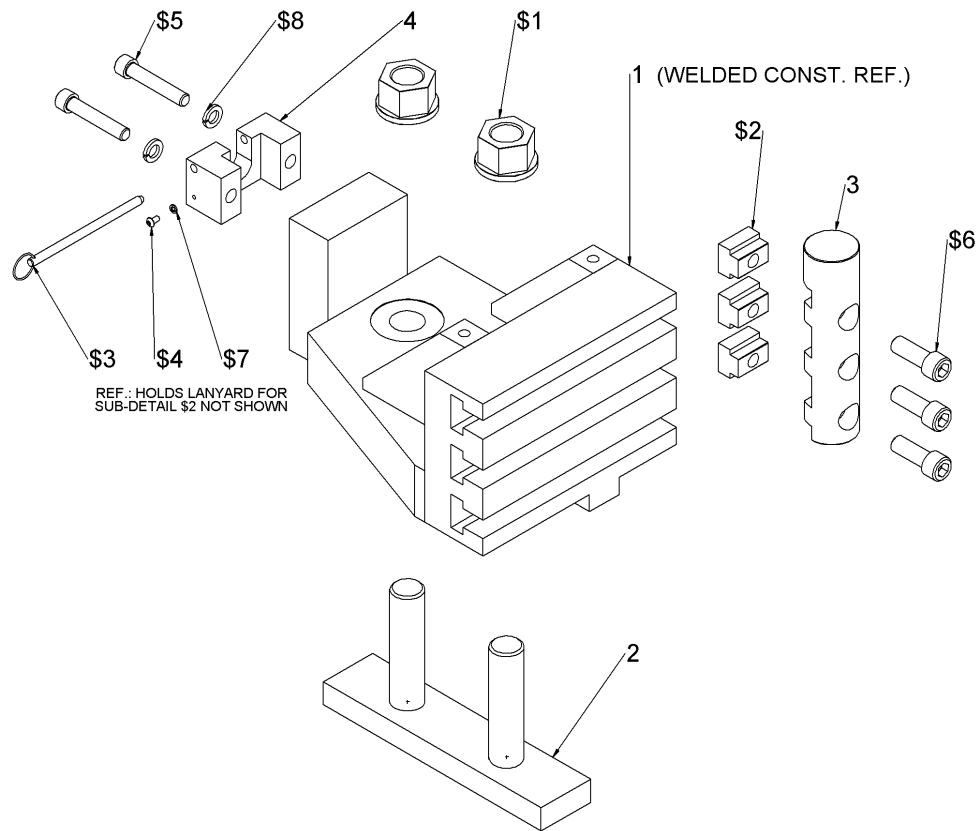


SUPERIOR USA ASSEMBLY PART NO. 60050-33507 (LH or RH) for PINES #3 or #4

EARLY MODEL PINES CLAMP DIE HOLDER ASSEMBLY (FOR LH or RH)

EARLY MODEL CLAMP DIE HOLDER ASSEMBLY for PINES #3 or #4

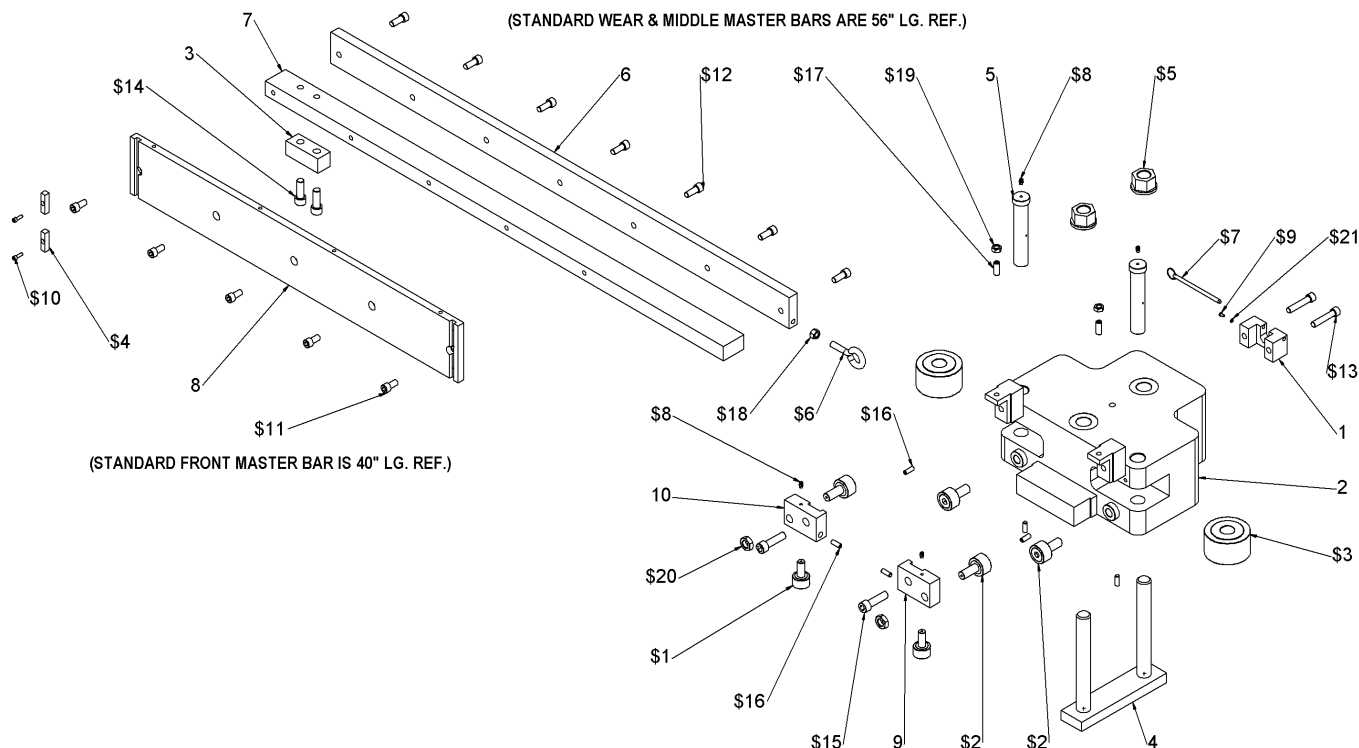
KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1	60050-13500	114-50-135-00	1	Block, Clamp Die Holder (LH or RH machines)
2	60050-16005	114-50-160-05	1	T-Bolt Bar Assembly
3	60050-31500	114-50-315-00	1	Half Round – Round Boss Style (Pines Standard)
4	60009-33300	114-09-333-00	1	Holder Block – Adjuster Rod
\$1	1-903-41611	(Std. Purchase)	2	1 1/4"-7 Hex Flange Nut (TECO #FN-114)
\$2	94975A506	(Std. Purchase)	1	Quick Release Pin w/ Lanyard
\$3	(Std.)	(Std. Purchase)	1	#10-24 B.H.S.C.S. x 3/8" Lg.
\$4	(Std.)	(Std. Purchase)	1	1/2"-13 S.H.C.S. x 1 1/4" Lg.
\$5	(Std.)	(Std. Purchase)	2	1/2"-13 S.H.C.S. x 2 3/4" Lg.
\$6	(Std.)	(Std. Purchase)	1	#10 Nom. Medium Spring Lock Washer
\$7	(Std.)	(Std. Purchase)	2	1/2" Nom. Medium Spring Lock Washer



SUPERIOR USA ASSEMBLY PART NO. 60050-33507-SP (LH) or 60050-33508-SP (RH) for PINES #3 or #4
CLAMP DIE HOLDER ASSEMBLY - SLOTTED STYLE (LH SHOWN, RH OPPOSITE)

CLAMP DIE HOLDER ASSEMBLY for PINES #3 or #4 (LH SHOWN)

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	60050-13500-SP	114-50-135-00	1	Block, Clamp Die Holder (LH machine only)
1 (RH)	60050-13501-SP	114-50-135-00	1	Block, Clamp Die Holder (RH machine only)
2	60050-16005	114-50-160-05	2	T-Bolt Bar Assembly
3	60050-31501	114-50-315-00	1	Half Round – Slotted Style (Non-standard)
4	60009-33300	114-09-333-00	1	Holder Block – Adjuster Rod
\$1	1-903-41611	(Std. Purchase)	2	1 1/4"-7 Hex Flange Nut (TECO #FN-114)
\$2	1-903-41417	(Std. Purchase)	3	5/8"-11 T-Nut (TECO #TN-812)
\$3	94975A506	(Std. Purchase)	1	Quick Release Pin w/ Lanyard
\$4	(Std.)	(Std. Purchase)	1	#10-24 B.H.S.C.S. x 3/8" Lg.
\$5	(Std.)	(Std. Purchase)	2	1/2"-13 S.H.C.S. x 2 3/4" Lg.
\$6	(Std.)	(Std. Purchase)	3	5/8"-11 S.H.C.S. x 1 3/4" Lg.
\$7	(Std.)	(Std. Purchase)	1	#10 Nom. Medium Spring Lock Washer
\$8	(Std.)	(Std. Purchase)	2	1/2" Nom. Medium Spring Lock Washer



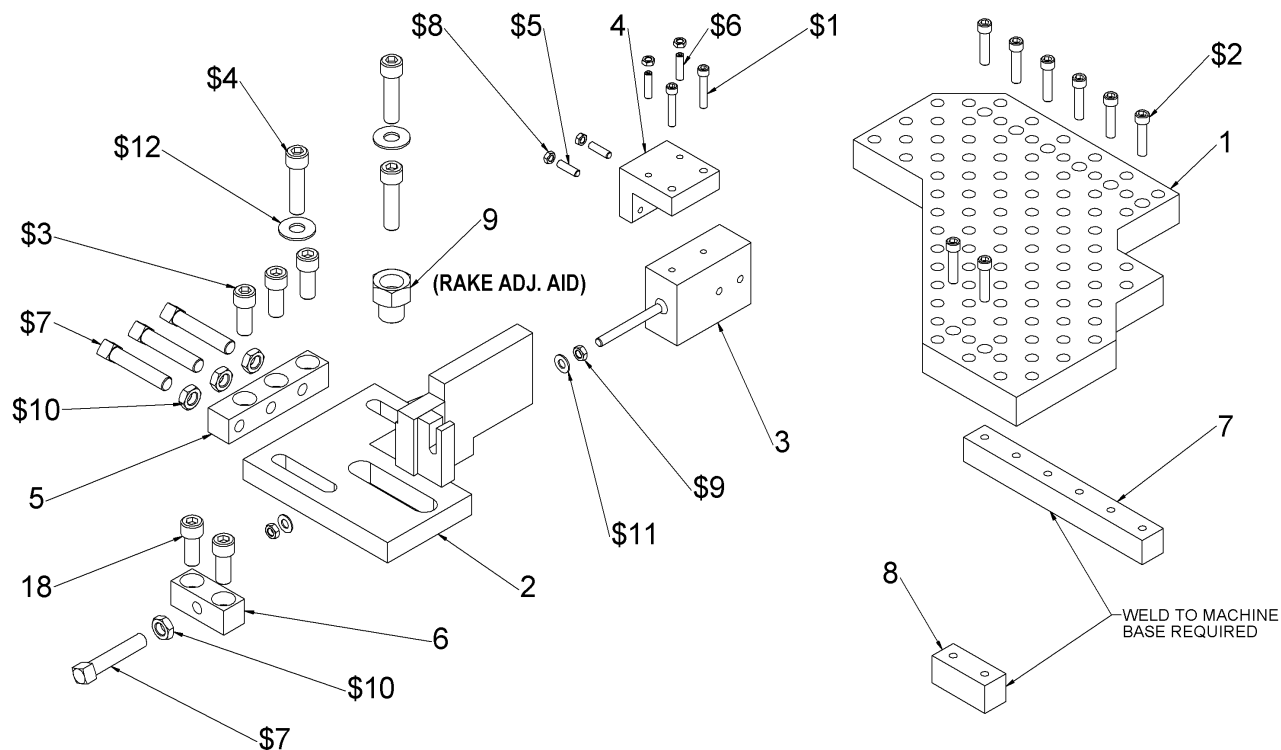
SUPERIOR USA ASSEMBLY PART NO. 60052-34502 (LH) or 60052-34503 (RH) for PINES #3 or #4

PRESSURE DIE HOLDER ASSEMBLY (LH SHOWN, RH USES SAME DETAILS)

PRESSURE DIE HOLDER ASSEMBLY for PINES #3 or #4 (LH SHOWN)

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1	60009-33300	114-09-333-00	1	Holder – Adjuster Rod
2	60052-14502	114-52-145-02	1	Block, Pressure Die Holder (LH or RH)
3	60052-15515	114-52-155-15	1	Stop Block – Master Bar
4	60052-16005	114-52-160-05	1	T-Bolt Assembly
5	60052-50000	114-52-500-00	2	Pin – Pressure Die
6	60052-53000	114-52-530-00	1	Master Bar – Wear (For 24" CLR Machine)
7	60052-53001	114-52-530-01	1	Master Bar – Middle (For 24" CLR Machine)
8	60052-53002	114-52-530-02	1	Master Bar – Front (For 24" CLR Machine)
9	60052-82800	114-52-828-00	1	Support Block, P/D – Left Side
10	60052-82801	114-52-828-01	1	Support Block, P/D – Right Side
\$1	CF-1 1/2-SB	(Std. Purchase)	2	Cam Follower Bearing
\$2	CF-1 3/4-SB	(Std. Purchase)	4	Cam Follower Bearing
\$3	CRY-4-S	(Std. Purchase)	2	Cam Yoke Roller Bearing
\$4	MK-3	(Std. Purchase)	2	Key – Master Bar
\$5 - \$21	(Call for info)	(Std. Purchase)	N/A	Standard Purchase Components & Fasteners

(Details 3, 6, 7, 8, \$4, \$6, \$10, \$11, \$12, \$14, & \$18 also sold as Master Bar Assembly, ref. Pt# 60052-44900)

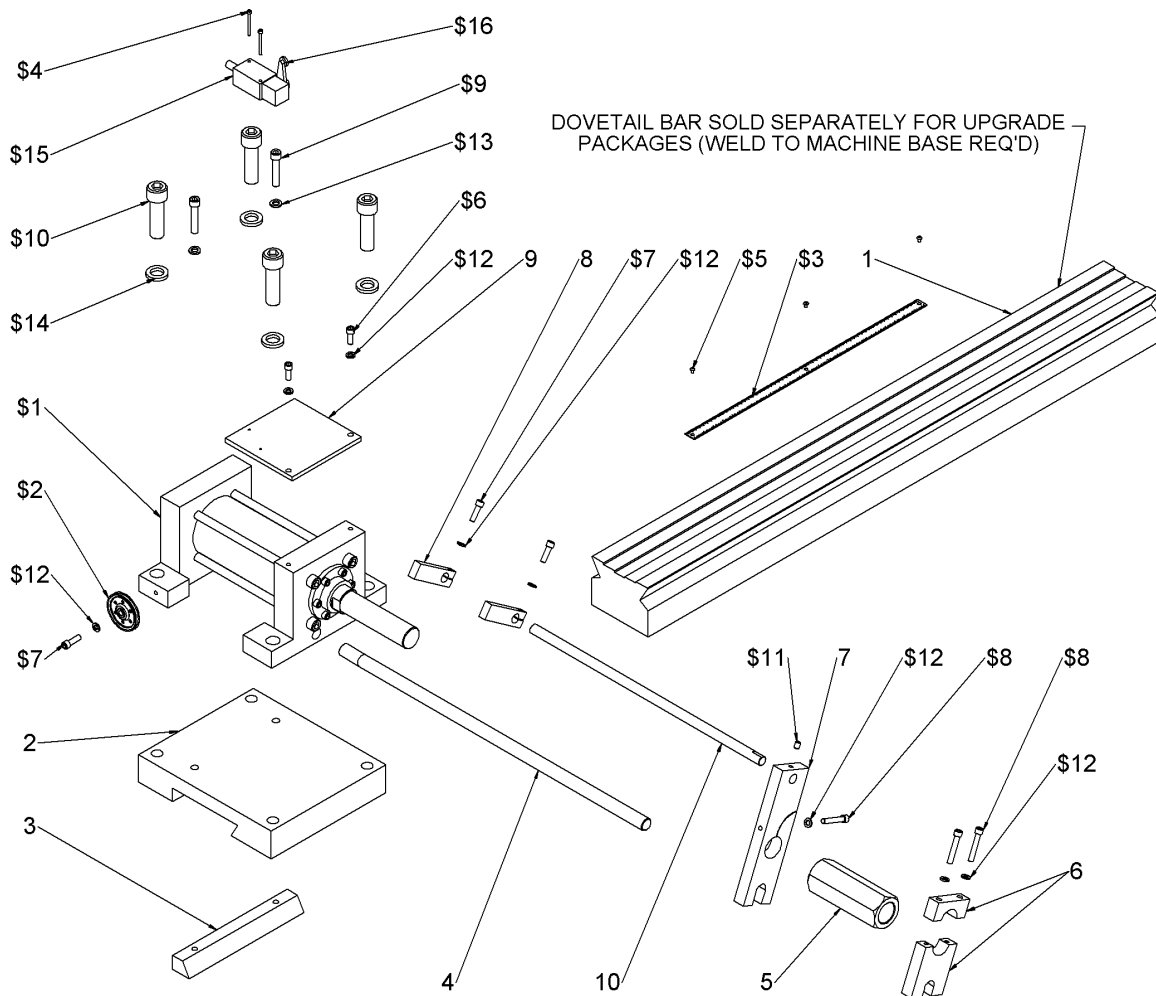


SUPERIOR USA ASSEMBLY PART NO. 60056-35026 (LH) or 60057-35026 (RH) for PINES #3 or #4
STANDARD WIPER DIE HOLDER ASSEMBLY (LH SHOWN)

STANDARD WIPER DIE HOLDER ASSEMBLY for PINES #3 or #4 (LH SHOWN)

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1 (LH)	60056-35027	114-56-350-27	1	Base Plate, LH – WDH (LH machine only)
1 (RH)	60057-35027	114-57-350-27	1	Base Plate, RH - WDH (RH machine only)
2 (LH)	60056-35028	114-56-350-28	1	Bracket, “X” Axis Adj. - LH (LH machine only)
2 (RH)	60057-35028	114-57-350-28	1	Bracket, “X” Axis Adj. - RH (RH machine only)
3	60056-35029	114-56-350-29	1	Die Holder Block, “Y” Axis Adj. – WDH
4	60056-35030	114-56-350-30	1	Hanger Bracket – WDH
5	60056-35031	114-56-350-31	1	Back-Up Block, “X” Axis – WDH
6	60056-35032	114-56-350-32	1	Back-Up Block, “Y” Axis – WDH
7	60056-35033	114-56-350-33	1	Tap Plate, Large – WDH
8	60056-35034	114-56-350-34	1	Tap Plate, Small – WDH
9	60056-35036	(Not Pines Std.)	1	Eccentric Sleeve – SHCS (For Rake Adjustment)
\$1 - \$12	(Contact for info)	(Std. Purchase)	N/A	Standard Purchase Components & Fasteners

(Inquire about our “post mounting” Wiper Die Holder Assembly for quicker change-over adjustments!)



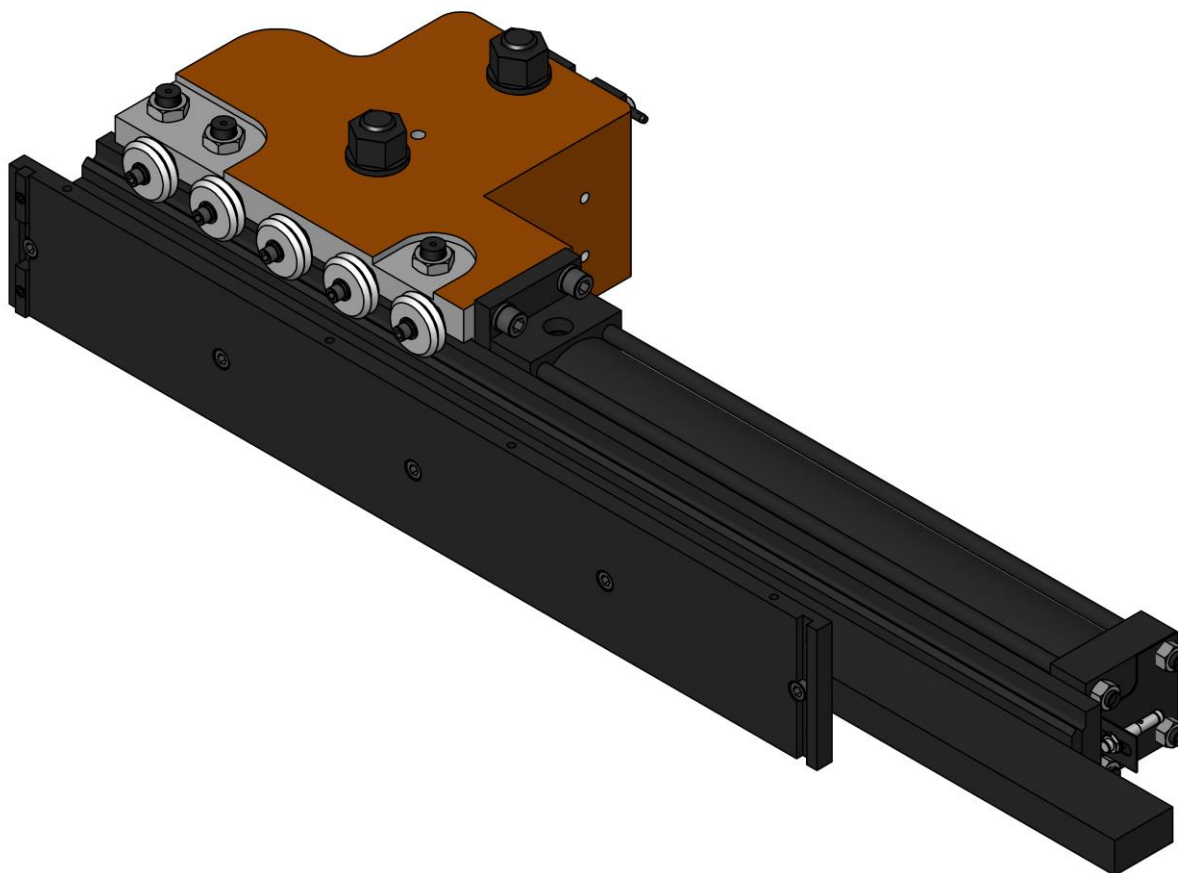
SUPERIOR USA ASSEMBLY PART NO. 60062-26500 for PINES #3 or #4

STANDARD 8" STROKE MANDREL EXTRACTOR ASSEMBLY (for LH or RH MACHINES)

**STANDARD MANDREL EXTRACTOR ASSEMBLY for PINES #3 or #4
(MECHANICAL DETAILS SHOWN ONLY, CONTACT FOR COMPLETE PACKAGE)**

KEY	SUPERIOR USA PART NO.	REPLACES PINES PART NO.	NO. REQ'D	DESCRIPTION
1	60030-60509	114-30-605-09	1	Dovetail Bar (Sold separately for upgrade pkg.)
2	60062-14005	114-62-140-05	1	Base Plate – Mandrel Extractor
3	60060-29503	114-60-295-03	1	Locking Gib – Mandrel Base (Tapped style)
4	60060-65002	114-60-650-02	1	Guide Rod – Anti-Rotate
5	60060-87000	114-60-870-00	1	Turnbuckle – Mandrel Rod (1 3/4"-10 Thd. Std.)
6	60062-21501	114-62-215-01	1	Anti-Rotate Bracket – Mandrel Rod
7	60062-55100	114-62-551-00	1	Anti-Rotate Bracket – Cylinder Rod
8	60062-01600	114-62-016-00	2	Switch Dog – Mandrel Cylinder
9	60062-55300	114-62-553-00	1	Switch Bracket – Retract / Extend
10	60062-70500	114-62-705-00	1	Rod – Switch Dog
\$1	60000-24202	114-00-242-02	1	Hydraulic Cylinder (Standard size less fittings)
\$2 - \$16	(Contact for info)	(Std. Purchase)	N/A	Standard Purchase Components & Fasteners

(Contact us for information on reverse guided mandrel extractors and special designs also!)

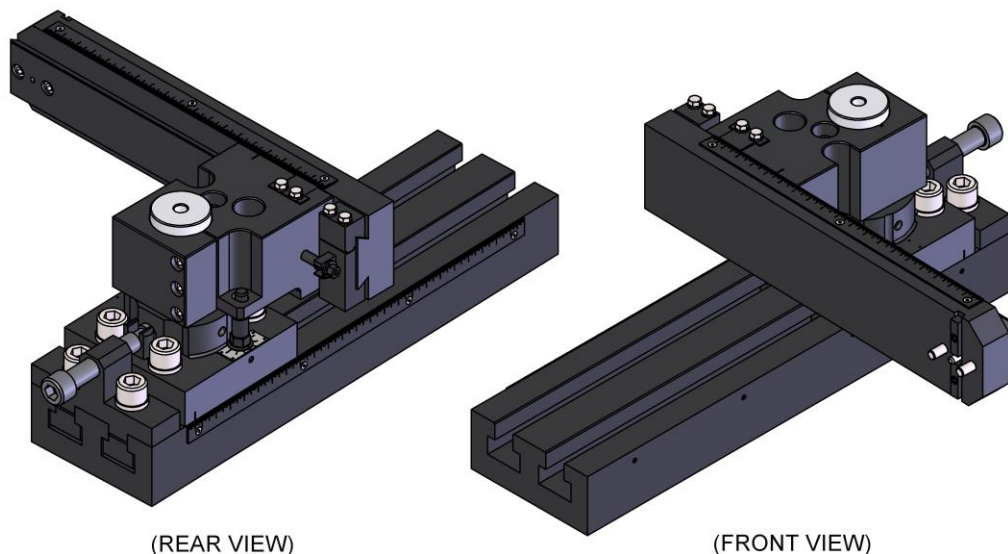


SUPERIOR USA ASSEMBLY PART NO. 60052-34600 (LH) or 60053-34600 (RH) for PINES #3 or #4
PRESSURE DIE ASSIST (PDA) ASSEMBLY (LH w/ 24" STROKE SHOWN, 30" STROKE ALSO STD.)

UPGRADE PRESSURE DIE ASSIST ASSEMBLY for PINES #3 or #4 (LH SHOWN)

We offer a "PDA" Assembly upgrade package for your Pines #3 or #4 tube and pipe bender to help your machine bend tight radius, stainless steel, and thin wall tubing applications with improved quality while reducing wall thinning. We incorporate a low-profile design with an in-line cylinder actuation which is available in various standard and non-standard stroke lengths. Packages can also include hydraulic valve bank and control interface upgrades for machines which were built with a standard free-floating pressure die holder. These assemblies can also be equipped with linear encoding sensors and a proportional valve bank for speed control with CNC machine controllers.

SupUSA PART NO. (L.H. MACHINES)	SupUSA PART NO. (R.H. MACHINES)	DESCRIPTION
60052-34600-24IN	60053-34600-24IN	24" Stroke Pressure Die Assist (PDA) Assembly – Mechanical Only
60052-35600-30IN	60053-35600-30IN	30" Stroke Pressure Die Assist (PDA) Assembly – Mechanical Only
60052-36600-xxIN	60053-36600-xxIN	Special Length Stroke PDA Assembly – Mechanical Only
60052-34600-HVB	60052-34600-HVB	Hydraulic Valve Bank & Control Interface Package for PDA Ass'y



SUPERIOR USA ASSEMBLY PART NO. 60056-28100 (LH) or 60057-28100 (RH) for PINES #3 or #4
HEAVY DUTY "QUICK-ADJUST" WIPER DIE HOLDER ASSEMBLY (LH SHOWN, RH OPPOSITE)

UPGRADE WIPER DIE HOLDER ASSEMBLY for PINES #3 or #4 (LH SHOWN)

We offer a "Quick-Adjust" Wiper Die Holder (WDH) Assembly upgrade package for your Pines #3 or #4 tube and pipe bender to help your machine bend tight radius, stainless steel, and thin wall tubing applications with improved quality while reducing deformation and wrinkling around the inside of the bend. Our design also greatly improves set-up times during tool change-over with superior fine-tuning adjustments. This upgrade is ideal for job shops with multiple daily tooling changes which are time consuming due to the original Pines WDH design. The heavy-duty design shown above when properly mounted to your Pines machine base will handle CLR ranges from 3" to 21" and degree of bends (DOB) up to 150 degrees on tight radius bends. We also offer a unit which mounts directly onto the Pines style t-slotted WDH base but some features are limited due to the Pines base design. (Standard & Pines base mounted units not shown.) Please call and request more info for all of these units. We also have units for #1 ¼ & 2's.

SupUSA PART NO. (L.H. MACHINES)	SupUSA PART NO. (R.H. MACHINES)	DESCRIPTION
60056-08100	60057-08100	Standard "Quick -Adjust" Wiper Die Holder Assembly
60056-28100	60057-28100	Heavy-duty "Quick-Adjust" Wiper Die Holder Assembly
60056-48100	60057-48100	Heavy-duty "Quick-Adjust" WDH Assembly for Pines WDH Base