Read all instructions before using

SAFETY PRECAUTIONS

Caution: Keep clear of rotating shaft.

Use safety glasses. Also use face or dust mask if operation is dusty.

Speed Screed 580 (Heavy Duty)

Serial #_____

Engine #_____

SPEED SCREED® HEAVY-DUTY

Contents

INTRODUCTION

Assembly Before Operation: Adding a "screed extension" or non-engine-end "end-frame".

1. Read the owner's manual before starting or using your Screed unit.
2. Perform all assembly work on a level surface.
3. Referring to sketches on the following page, remove coupler half and key on machines equipped with hydraulic winches.
4. Remove bolts (A) and saddles (B). Loosen set screws "C" on shaft coupler.
5. Loosen turnbuckle nut. Turn turnbuckle until only 1-2 threads are engaged.
6. Move joining sections together. Line up turnbuckle (D) w/ opposing backbone.
7. Thread turnbuckle into adjoining section. As the turnbuckle draws the sections together, align shaft coupler and lap plates for assembly. A drift pin may be helpful for final line-up of bolt holes.
8. When sections are drawn together, install the saddles (B) with bolts (A) and tighten coupler set screws (C) on flat portion of adjoining shaft (E).
9. Follow the above procedure when adding or removing other screed extensions.

Important: ***Be sure coupler headless set screws "C" engage on flat portion of the adjoining shaft (E). This provides proper alignment of eccentric weights, thus assuring even vibration over the entire length of the machine.***

Small gaps between screed bottoms are permissible and will not affect surface finish.

Check for Flatness:

1. Elevate screed on forms or blocks to check or adjust flatness or crown.
2. Loosen turnbuckle lock nuts and shaft coupler set screws.
3. Turn turnbuckles counter-clockwise to pull in crown, or clockwise to flatten.
4. Pull a string tight under the screed bottom of the rear finishing tube (finish grade is obtained from the rear finishing tube).
5. Measure for flatness or crown at each joint.
6. When desired crown or flatness is obtained, lock turnbuckle lock nuts, and tighten shaft coupler set screws. (Note: tighten all eight (8) lock nuts at each finishing tube joint.)

Optional: Wrap a good grade of tape over the shaft coupler's headless set screws. This will keep concrete out of the headless set screw holes.

THE SCREED IS NOW READY FOR OPERATION

INTRODUCTION

Figure 1: Assembly of Section-to-Section

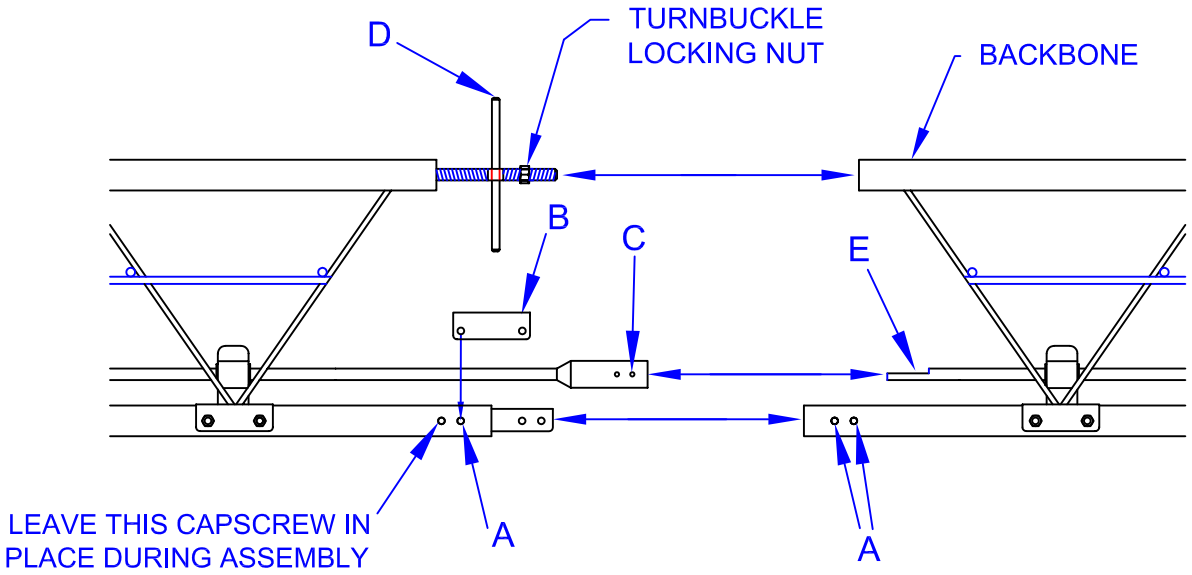
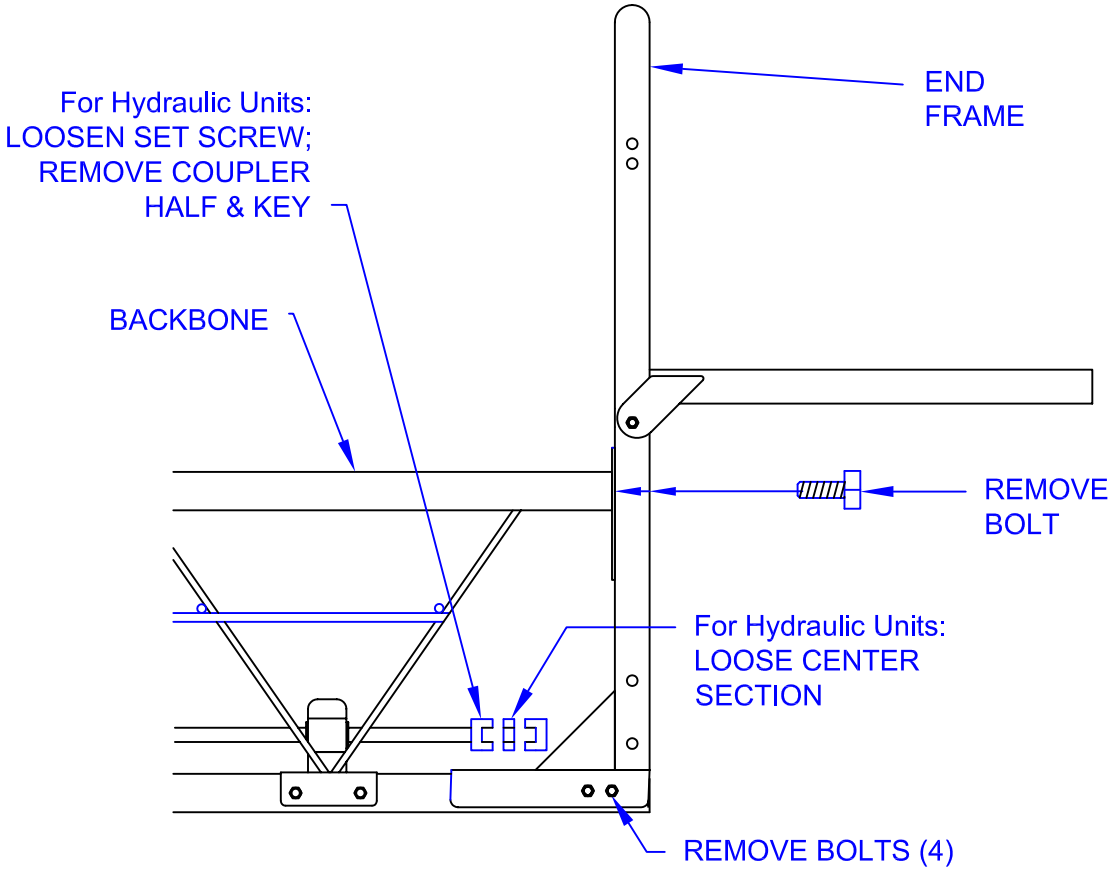


Figure 2: Assembly of End frame to Section)



INTRODUCTION

Pump & Winch Installation: for addition of hydraulic winches.

Parts:

- Oil Reservoir with motor, speed control, and loose pump
- Fasteners for mounting pump and oil reservoir.
- Lovejoy coupler (hydraulic units built after 1-1-2007 require shorter lovejoy coupler)

Directions:

- Loosen end bearing.
- Use clamps to secure the oil reservoir (tank) to the end frame.
- Mark the mounting holes and drill through the tubes.
- Secure the tank with the nuts and cap screws provided.
- Loosely fasten the pump into the pump mount.
- Install “love-joy” coupler on the end of the shaft and pump.
- Once the coupler is aligned, tighten the pump and set screws.
- Tighten end bearing
- rotate shaft to check for alignment

Snatch Block Ring:

- machines assembled after date 1-1-87 should be equipped with a snatch block ring welded near the end of the pump mount.
- if end frame doesn’t already have a “tab ring”, one will have to be welded onto each end frame.
- Location: against the pump mount, and centered over end frame bearing mount, on the front (forward) side of screed. The ring should be standing up, with the ring holes facing the opposite end of the screed.
- Welds: weld to pump mount and bottom of bearing mount

Oil:

- fill the hydraulic tanks to within 1-1/2” of top, using DTE-26 hydraulic oil.

INTRODUCTION

Attaching the Screed Extenders:

Screed Extenders attach to outside of End Frame Assembly using reinforcement angles, cap screws, and lock nuts.

Figure 1: View from operator's position.

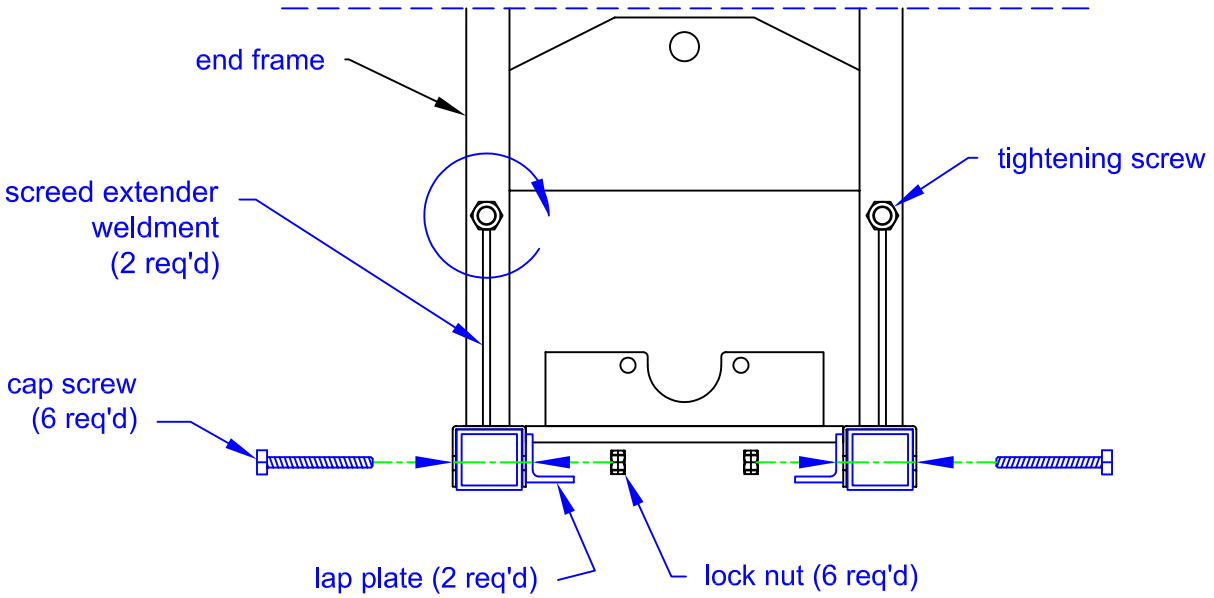
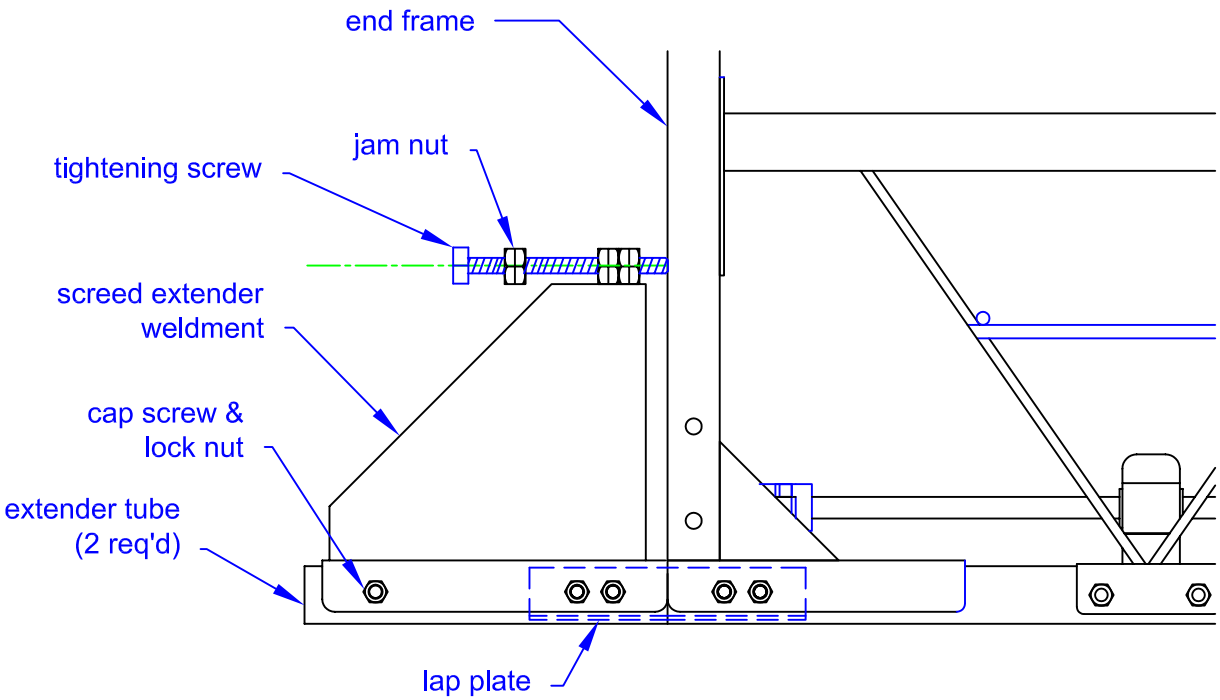


Figure 2: View from in-front of machine



INTRODUCTION

Attaching Offset Plates & Guide Plates

Figure 1: Offset Plate

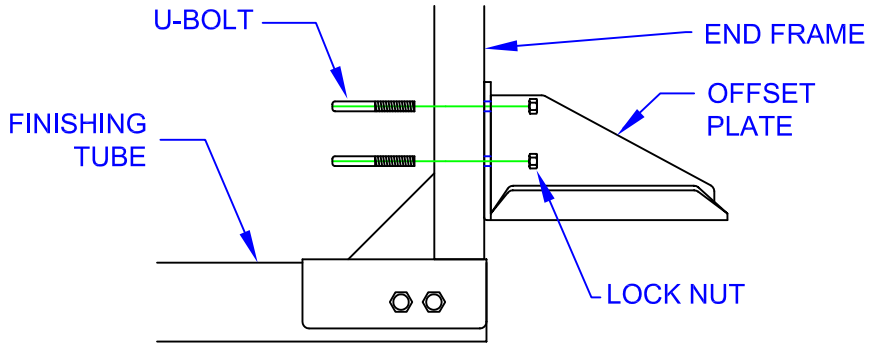


Figure 2: Outside Guide Plate

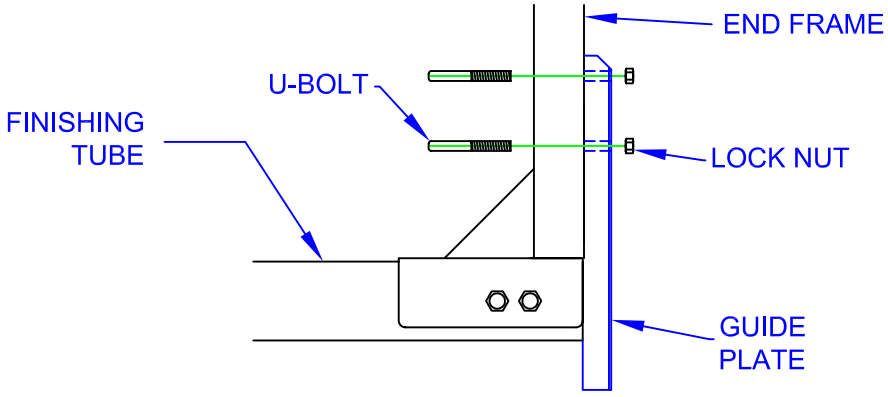
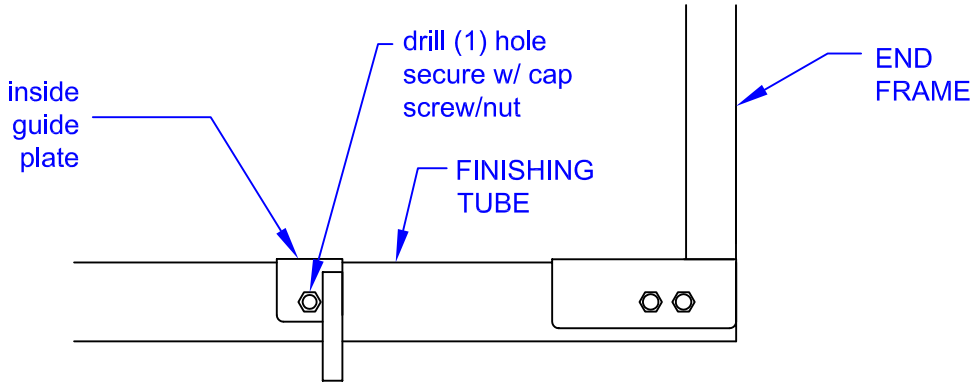


Figure 3: Inside Guide Plate



OPERATING and SERVICING

Operating the Screed:

WARNING! Keep Clear of Rotating Shaft!

NOTE: Always run engine at either idle speed or full throttle.
Clutch failure will occur within moments if engine is run at partial throttle.

IMPORTANT: When changing crown or flatness of screed: Loosen the set screws on the drive shaft couplers **before** adjusting the turnbuckles to prevent clutch or bearing damage.

Slump & Roll: Concrete slump should be high enough for good workability, but stiff enough to hold crown. Normally this would require a slump of approximately 3" or less. As the screed moves forward, a minimum 1" roll of concrete should be maintained ahead of the front screed tube. A ½" roll of concrete should be kept in front of the rear finishing tube. Travel speed should be adjusted (see instruction below) according to concrete supply and finish.

Vibration: Vibration frequency and amplitude is preset at the factory. Winch speed should be used to control the duration of vibration seen by the concrete.

Hand Winch Operation:

1. Before the pour begins, extend the cables out by disengaging the winch ratchet lever. However, always keep three (3) wraps of cable around the spool drum.
2. Hook the cable to any stationary member strong enough to support the load. Make sure the cable is in-line with the winch.
3. Roll excess cable back on the winch by turning the winch handle, eliminating any "slack".
4. Review the engine operating and maintenance instructions.
5. Start engine, run at maximum throttle position. Operating the engine below maximum throttle position can result in malfunctioning clutch.
6. Crank speed forward with winches

Hydraulic winch operation:

1. Before the pour begins, extend the cables out by removing the detent pin from spool. However, always keep three (3) wraps of cable around the spool drum.
2. Hook the cable to any stationary member strong enough to support the load. Make sure the cable is in-line with the winch.
3. Roll the excess cable back on the spool, eliminating any "slack".
4. Align the hole in spool with the hole in winch shaft, and insert detent pin.
5. Review the engine operating and maintenance instructions.
6. Make sure speed control knob on hydraulic flow control valve (p/n 580-78-P) is turned all the way open (counter clockwise).
7. Start engine, run at maximum throttle position. Operating the engine below maximum throttle position can result in malfunctioning clutch.
8. With clutch engaged, travel speed may be varied by rotating each controller knob clockwise, to increase rate of travel, or counter-clockwise, to decrease the rate of travel.

Engine: Most engines will not operate properly when operated at angles of more than 20 degrees to the horizon. Always run the engine at 100% throttle position when not idling.

Clutch: The clutch is designed to provide load free idle of the engine and slippage under excessive overloading of the driven application. Clutch will overheat if not fully engaged. Failure will occur of clutch drum is overheated by not enough torque from engine. Clutch is bolted to crank shaft with 5/16"-24 UNF threads (14-19 ft.lbs).

OPERATING and SERVICING

Maintenance:

Before each use:	Spray form-release agent over entire machine.
After each use:	Clean off entire machine using brush and water. Cleaning agents may be used, such as "CleanOff" liquid concrete remover.
After every 20 hours of operation:	Grease main shaft bearings.
On a Yearly Basis:	Drain hydraulic oil reservoirs; remove and clean (or replace) suction strainer located in bottom of reservoir. Remove main bearing from clutch assembly. Soak in crankcase oil for 24 hours.

(Further maintenance information is available on specification sheets covering engine, winches, pumps, and motors.)

OPERATING and SERVICING

Troubleshooting Hydraulics:

There are 5 main components to the hydraulic winching system:

1. Oil Reservoir
2. Integrated Hydraulic Control (IHC): speed control, filter, & relief valve
3. Pump
4. Motor with spool
5. Lovejoy coupler

Oil Reservoir: Having enough oil in the reservoir keeps the system from overheating. The fill cap on top also acts as a breather valve.

IHC: The IHC contains the flow control valve, the relief valve, and the oil filter. The flow control valve determines the winching speed. The relief valve is provided for your safety. The oil filter is provided to increase longevity of all the hydraulic components.

Pump: A different pump is used on each end of the screed, as one turns clockwise, and the other turns counter-clockwise.

Motor/Spool: The motor with quick-release spool attached to it contains a knob, spring, shaft, and set screws. See the hydraulic components diagram for replacement parts and assembly.

Lovejoy Coupler: The lovejoy coupler has 3 comonents: 1) the shaft couper, the pump coupler, and the spider. The spider works as a damper, and will eventually wear out and require replacement. The couplers secure with set screws. Ensure the set screws are installed with thread locking compound. If the spider fails, the couplers will likely need replacement as well.

OPERATING and SERVICING

Notes:

OPERATING and SERVICING

Belt Maintenance and Replacement:

1. **Replacement Procedure for hand winch assembly:**

   Caution: *If belt(s) break while in operation, take extra care around motor. It will be HOT*

   1. Loosen engine mount bolts, and slide motor toward backbone to relieve belt tensions.
   2. Remove bolts from bearing blocks. (see drawing – item "A")
   3. While lifting shaft assembly, pull belt(s) out.
   4. Reverse procedure for assembling screed. See detail for proper belt tension.

2. Replacement Procedure for hydraulic winch assembly:

   Caution: *If belt(s) break while in operation, take extra care around motor. It will be HOT*

   1. Loosen engine mount bolts, and slide motor toward backbone to relieve belt tensions.
   2. Remove bolts from bearing blocks. (see drawing – item "A")
   3. Remove the hydraulic pump, but *do not* disconnect the hydraulic hoses. Remove pump bolts, then slide pump back.
   4. While lifting shaft assembly, pull belt(s) out.
   5. Reverse procedure for assembling screed. See detail for proper belt tension.

   Note: Alignment of coupler to spider is ***extremely important***. It must be within 1/16".

OPERATING and SERVICING

Figure 2: Belt Tension

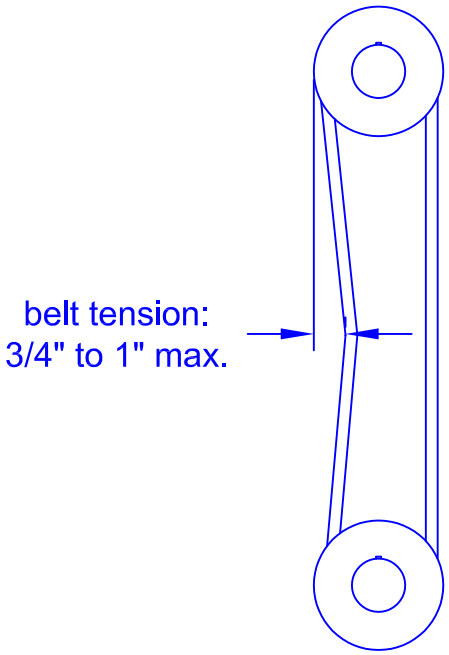
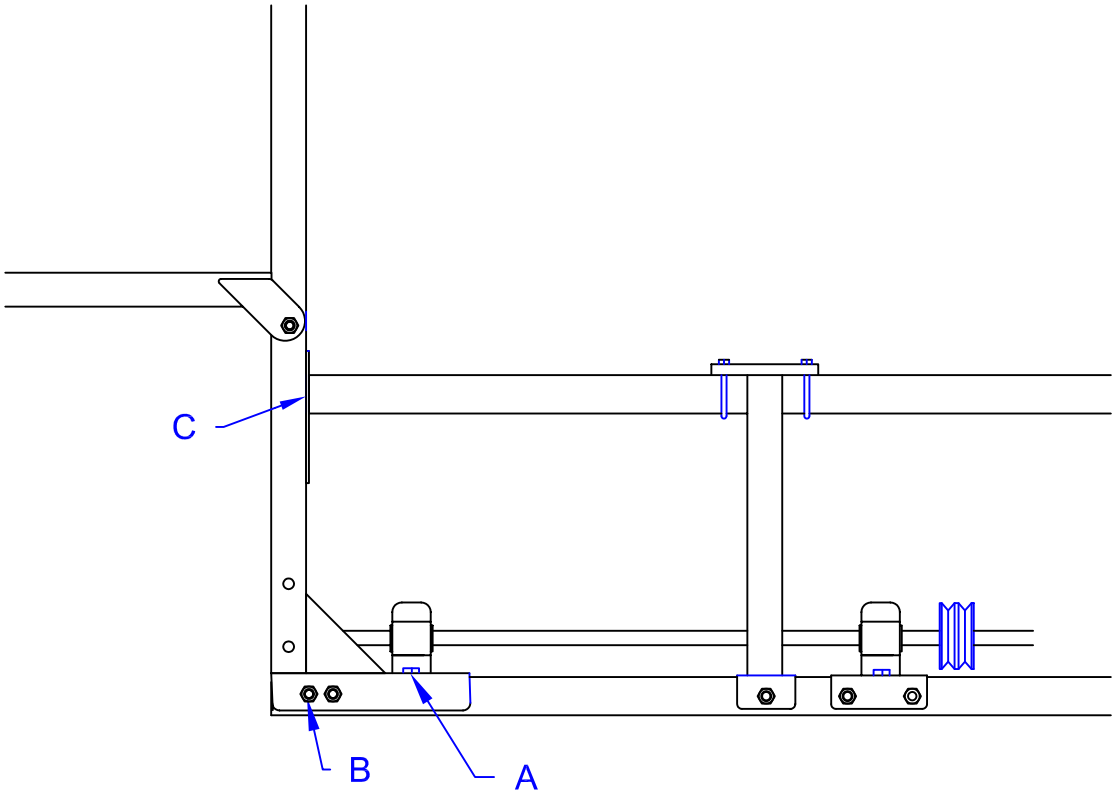


Figure 2: Belt Replacement



OPERATING and SERVICING

Motor Mount Components:

Table 1: Bill of Materials

ITEM	PART NO	DESCRIPTION	QTY
1	580-98	ENGINE MOUNT	1
2	580-64	CLUTCH ASSEMBLY	1
3	580-66	SHEAVE	1
4	580-106	V BELT B-59	2
5	046-850	3/16" x 2" KEY	1
6	580-174	BELT GUARD	1
7	044-105	U-BOLT	2
8	044-138	U-BOLT	3
9	046-852	1/4" x 2-3/8" KEY	1
10	040-438	3/8" LOCKNUT	6
11	040-425	1/4" LOCKNUT	6

NOTE: FOR PROPER BELT TENSION, SEE REPLACEMENT PROCEDURE.

NOTE: SCREEDS EQUIPED WITH ENGINES OF 8 H.P. OR MORE WILL HAVE DUAL BELT DRIVE CLUTCH AND SHEAVE ASSEMBLIES.

Figure 1: engine mount assy.

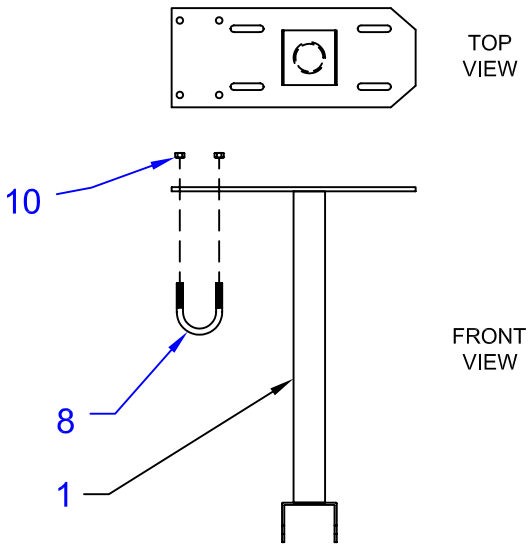
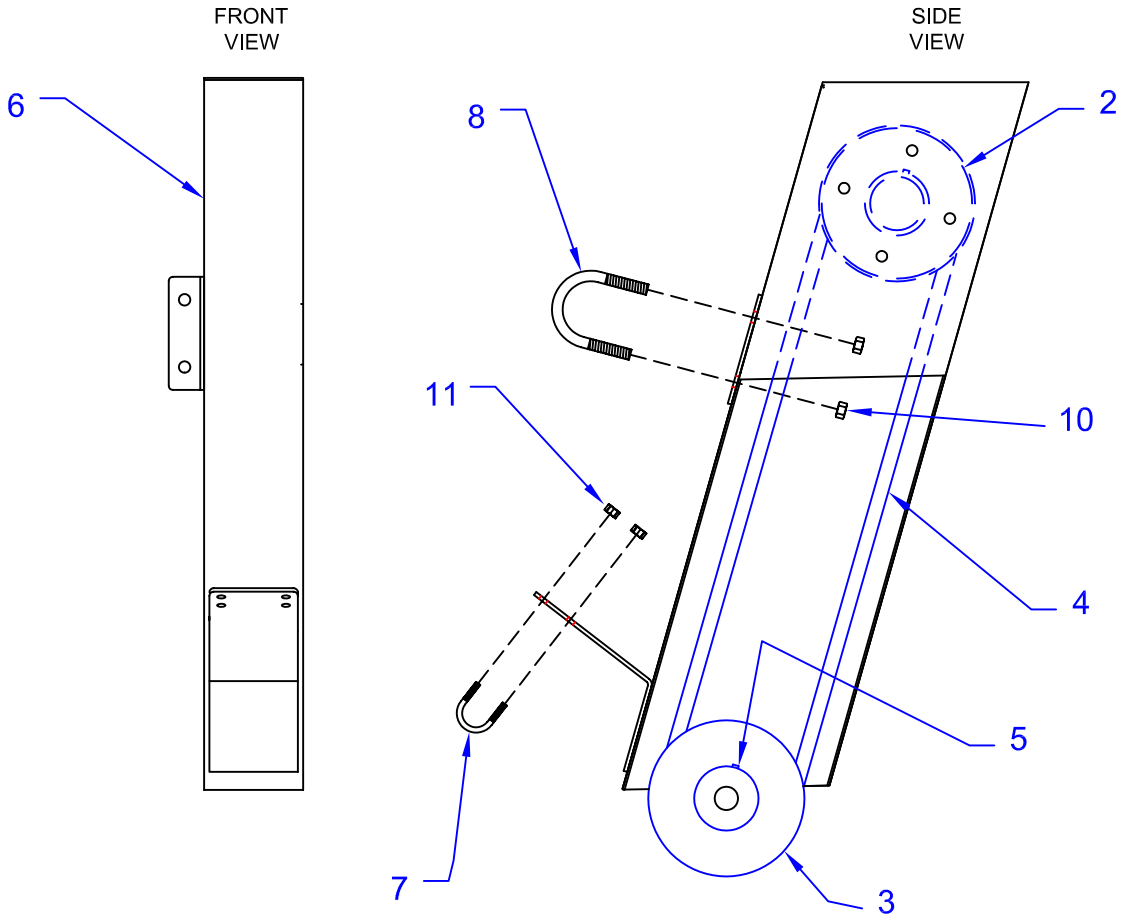


Figure 2: belt drive arrangement



SPECIFICATIONS - STANDARD ITEMS

Specifications and Recommendations:

Bearing: Pillow block, self-aligning, grease type.

Clutch: Centrifugal, continuous-type.

End Frames: Steel rod, sheet, and tube.

Engine:

INDUSTRIAL COMMERCIAL SERIES	FUEL TANK QTS-GALS/LITERS	OIL CAPACITY PTS-QTS/ LITERS	OVERHEAD VALVE SERIES	FUEL TANK GALS/LITERS	OIL CAPACITY PTS-QTS/LITERS
5 H.P.	3 QT. / 2.8 LTR.	1.25 PT./ .6 LTR.	5.5 H.P.	.95 GAL/3.6 LTR.	.63 QT./ 0.6 LTR.
8 H.P.	1.5 GAL./5.7 LTR.	2.75 PT./1.3 LTR.	8 H.P.	1.6 GAL./6 LTR.	1.16 QT./ 1.1 LTR.
11 H.P.	1.5 GAL./5.7 LTR	3PT./1.4 LTR.	11 H.P.	1.7 GAL./ 6.5 LTR.	1.16 QT./ 1.1 LTR.
			13 H.P.	1.7 GAL./ 6.5 LTR.	1.2 QT. / 1.1 LTR.

Finishing Tubes: Special analysis aluminum extrusion.

Frame Weldment: Steel pipe, rod, sheet, and tube.

Lift Handles: Steel sheet and tube.

Winch cable: Aircraft specification steel cable.

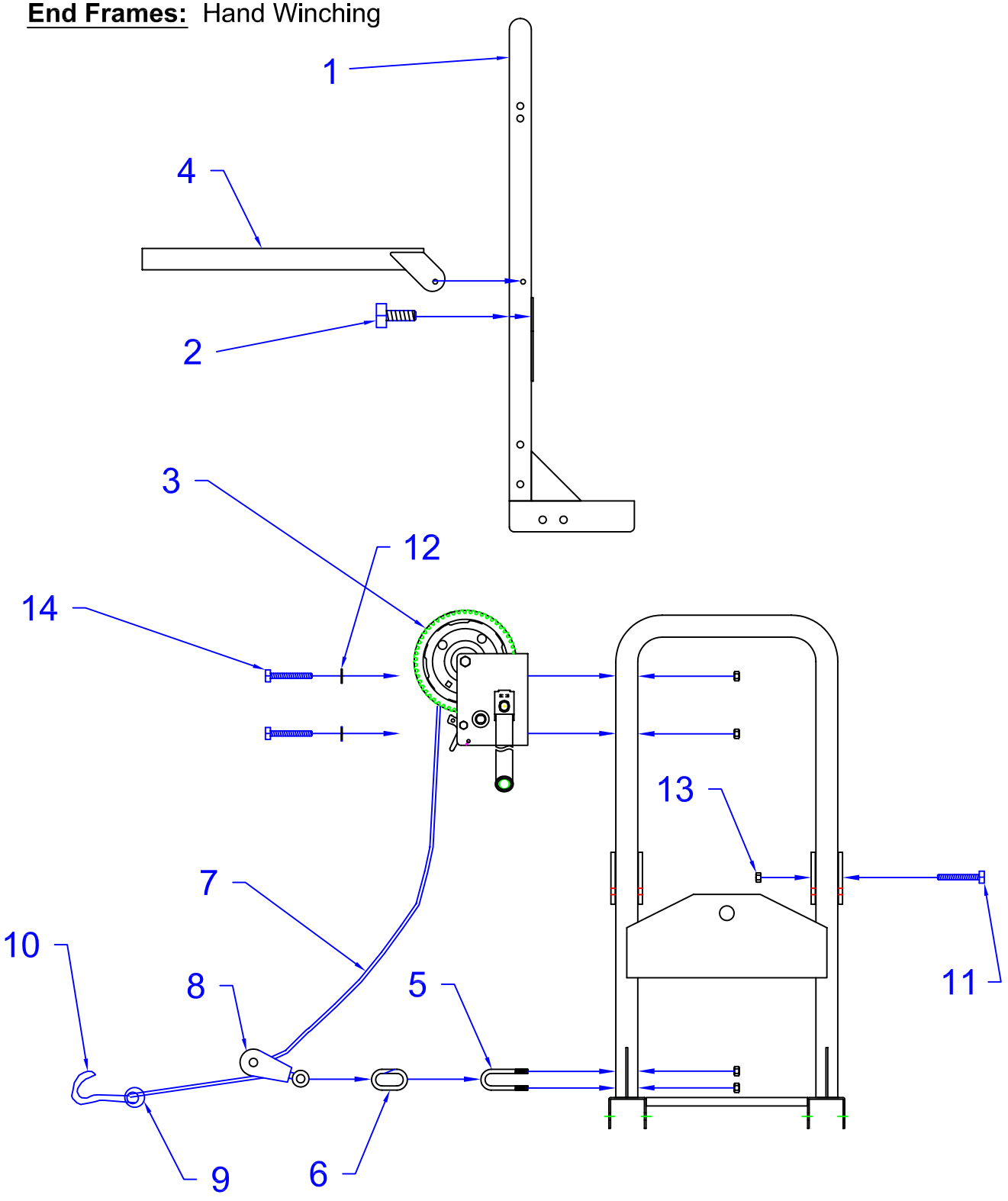
SPECIFICATIONS - STANDARD ITEMS

End Frames: Hand Winching

ITEM	PART NO	DESCRIPTION	QUANTITY
1	580-80	END FRAME (ENGINE END)	1
	580-81	END FRAME (EXTENSION END)	1
2	020-880	CAP SCREW	1
3	580-67	HAND WINCH	1
4	580-240	LIFT HANDLE	1
5	044-138	U-BOLT (3/8"-16 FOR 1-1/2" PIPE)	1
6	580-179	SAFETY LINK	1
7	580-180	1/8" DIA. AIRCRAFT CABLE	75'
8	580-48	SNATCH BLOCK	1
9	580-178	1/8" CABLE CLAMP	1
10	580-50	CABLE HOOK	1
11	020-430	3/8" x 3" HEX HEAD CAP SCREW	2
12	041-138	3/8" FLAT WASHER	2
13	040-438	3/8" SELF LOCKING NUT	6
14	020-427	3/8" x 2-3/4" HEX HEAD CAP SCREW	2

SPECIFICATIONS - STANDARD ITEMS

End Frames: Hand Winching



SPECIFICATIONS - STANDARD ITEMS

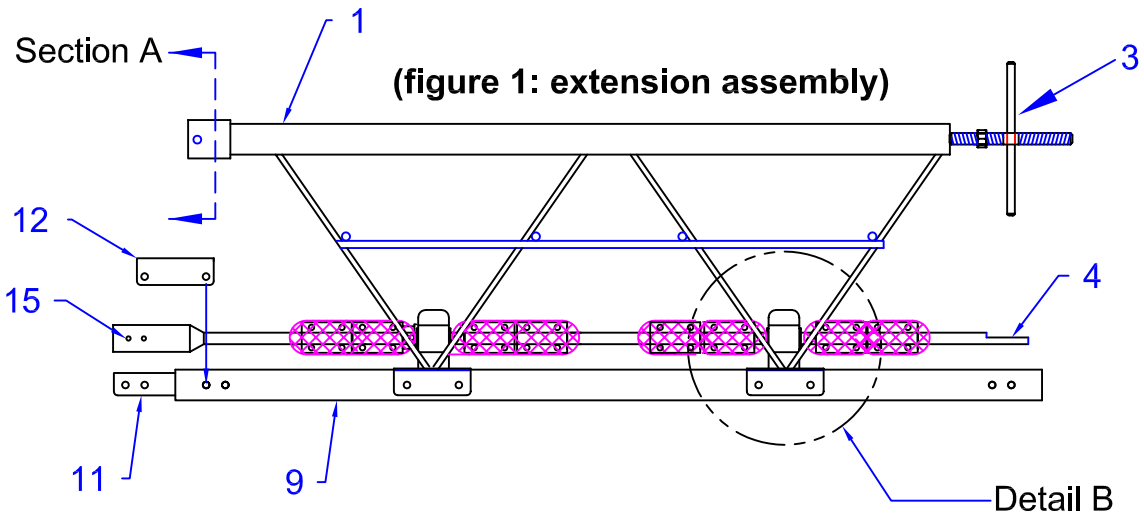
EXTENSION SECTION:

ITEM	PART NO	DESCRIPTION	QTY. PER END FRAME
1	580-85	FRAME ASSEMBLY, 2 FT. 6 IN.	AS REQUIRED
	580-92	FRAME ASSEMBLY, 5 FT.	AS REQUIRED
	580-93	FRAME ASSEMBLY, 10 FT.	AS REQUIRED
2	580-304	SHRINK TUBE	AS REQUIRED
3	580-27	TURNBUCKLE W/ NUT	1
4	580-88	MAIN SHAFT ASSEMBLY, 2 FT. 6 IN.	1
	580-87	MAIN SHAFT ASSEMBLY, 5 FT.	1
	580-86	MAIN SHAFT ASSEMBLY, 10 FT.	1
5	580-75	BEARING SPACER	AS REQUIRED
6	580-44	BEARING	AS REQUIRED
7	020-594	1/2" X 1-1/4" HEX HEAD CAP SCREW	AS REQUIRED
8	020-539	1/2" X 3-3/4" HEX HEAD CAP SCREW	AS REQUIRED
9	580-32	FINISHING TUBE, 2 FT. 6 IN.	2
	580-31	FINISHING TUBE, 5 FT.	2
	580-29	FINISHING TUBE, 10 FT.	2
10	040-450	1/2" SELF LOCKING NUT	AS REQUIRED
11	580-28	LAP PLATE	2
12	580-016	SADDLE	2
13	028-226	1/4"-28 X 1/4" SET SCREW	AS REQUIRED
14	028-239	1/4"-28 X 3/8" SET SCREW	AS REQUIRED
15	028-450	3/8"-16 X 1/2 SET SCREW	1
16	580-74*	ECCENTRIC WEIGHT	AS REQUIRED
17	044-109*	U-BOLT	AS REQUIRED
18	040-425*	1/4"-20 SELF LOCK NUT	AS REQUIRED
19	580-14	LEFT HAND NUT	1
20	045-438	PIN	2

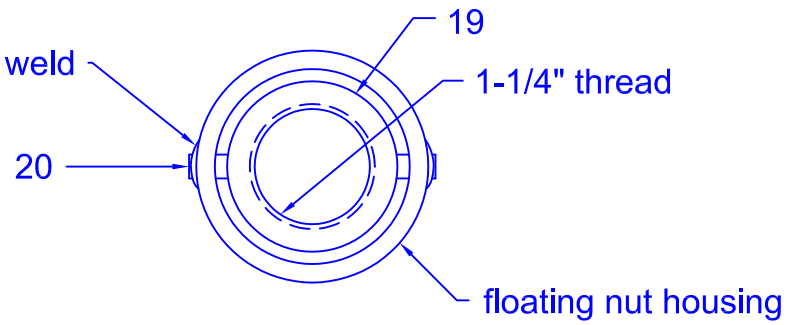
*Encase weight, u-bolts, and nuts with shrink tube (item 2) BEFORE operating machine. Each weight requires 1 shrink tube, 2 u-bolts, and 4 1/4" lock nuts.

SPECIFICATIONS - STANDARD ITEMS

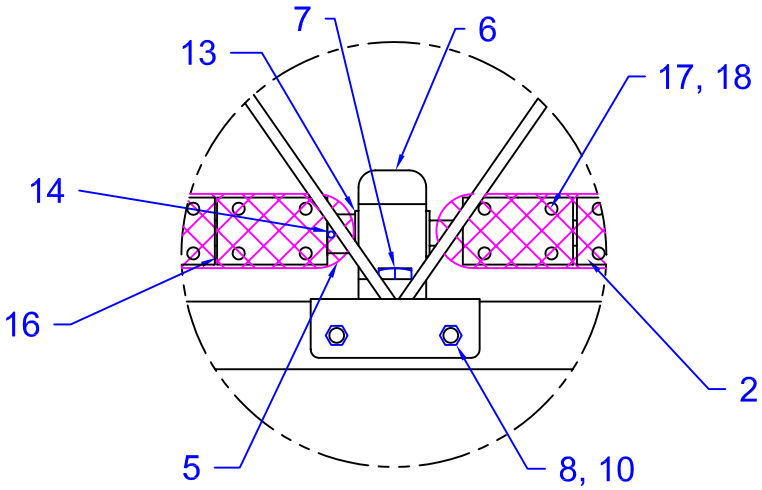
EXTENSION SECTION:



(figure 1: extension assembly)



(figure 2: zoomed in view of Section A)



(figure 3: zoomed in view of Detail B)

SPECIFICATIONS - STANDARD ITEMS

POWER SECTION:

ITEM	PART NO	DESCRIPTION	COMMENT
1	580-95	FRAME ASSEMBLY-10ft.-6in.	
	580-82	FRAME ASSEMBLY-5ft.-6in.	
2	580-46	FINISHING TUBE 10ft.-6in.	2 REQ'D
	580-30	FINISHING TUBE 5ft.-6in.	2 REQ'D
3	580-23	MAIN SHAFT 10ft.-6in.	1 REQ'D
	580-24	MAIN SHAFT 5ft.-6in.	1 REQ'D
4	580-75	BEARING SPACER	
5	580-44	BEARING	
6	020-594	HEX HEAD CAP SCREW 1/2"-13x1-1/4"	2 REQ'D / BEARING
	041-150	FLAT WASHER 1/2"	2 REQ'D / BEARING
	040-450	LOCKNUT 1/2"	2 REQ'D / BEARING
7	028-226	SETSCREW 1/4"-28x1/4"	1 REQ'D / BEARING
8	028-239	SETSCREW 1/4"-28x3/8	1 REQ'D / BEARING
9	020-539	HEX HEAD CAP SCREW 1/2"-13x3-3/4"	
10	040-450	LOCKNUT 1/2"	
11	580-74*	ECCENTRIC WEIGHT	
12	044-109	U-BOLT	2 REQ'D PER ECC. WT.
13	040-425	LOCKNUT 1/4"-20	2 REQ'D PER U-BOLT
14	580-13	RIGH HAND NUT	2 REQ'D
15	580-304	SHRINK TUBE	1 REQ'D PER ECC. WT.

*ENCASE WEIGHT, U-BOLTS & NUTS WITH SHRINK TUBE (ITEM#15) BEFORE OPERATING MACHINE.

SPECIFICATIONS - STANDARD ITEMS

POWER SECTION:

figure 1: power section assembly

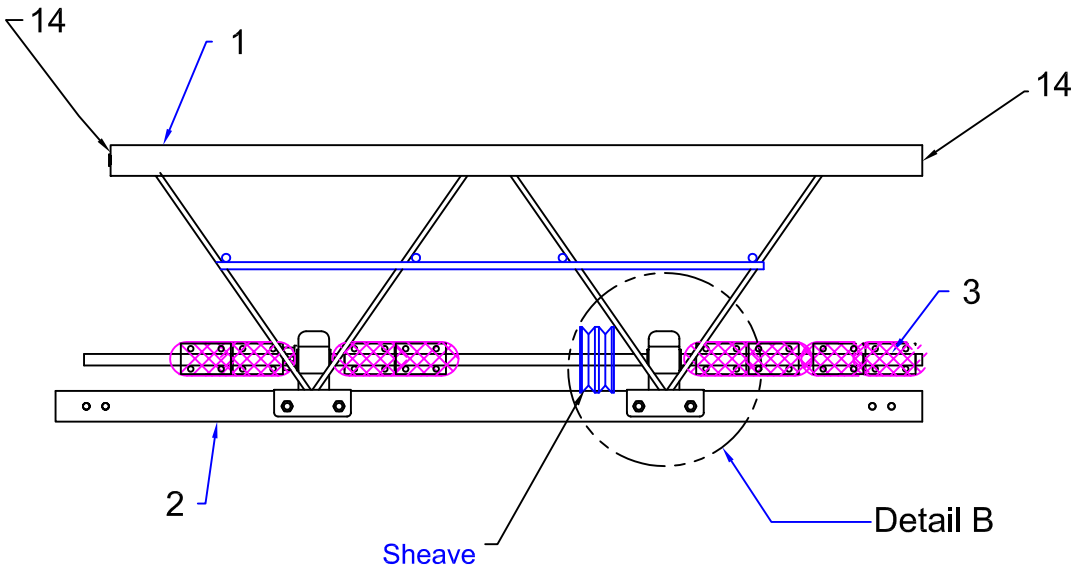
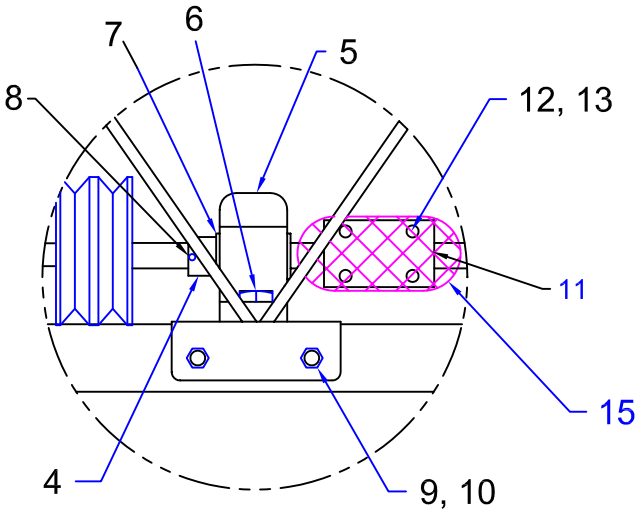


figure 2: zoomed in view of Detail B

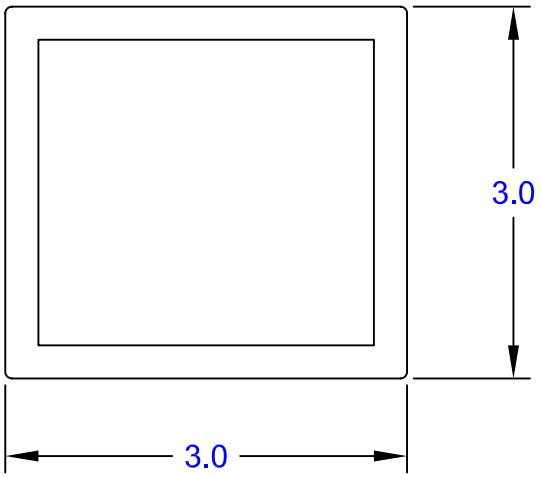


SPECIFICATIONS - STANDARD ITEMS

FINISHING TUBES:

PART NUMBER	DESCRIPTION	QUANTITY
580-46	10'-6" POWER SECTION	2
580-30	5'-6"POWER SECTION	2
580-29	10'-0" EXTENSION	2
580-31	5'-0" EXTENSION	2
580-32	2'-6" EXTENSION	2

Figure 1: cross-section of tube



SPECIFICATIONS - STANDARD ITEMS

WARRANTY:

Metal Forms Corporation warrants, solely to the original purchaser, its products to be free on the date of delivery from defects in material and workmanship. Metal Forms Corporation's obligation under this warranty is conditioned upon Metal Forms Corporation receiving notice of the defect within ten (10) days of discovery, and shall be limited to repairing or replacing, at its option, at its factory, any part or parts, which shall be returned to it with transportation charges prepaid, and which its examination shall disclose, to its satisfaction, to have been thus defective: PROVIDED that this limited warranty shall be effective only if such part or parts shall be so returned to Metal Forms Corporation not later than ninety (90) days after initial delivery of the products to the original purchaser. Metal Forms Corporation neither assumes or authorizes any other person or entity to assume for Metal Forms Corporation any other liability in connection with the sale of the products. No waiver, alteration, or modification of the foregoing conditions shall be valid unless made in writing, and signed by an executive officer of Metal Forms Corporation.

This warranty shall not apply in the event the products shall have been repaired or altered outside of Metal Forms Corporation, or if the products have been subject to abuse, misuse, negligence, or accident.

THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESSED, IMPLIED OR STATUTORY, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE AND ALL OTHER OBLIGATIONS OR LIABILITIES ON OUR PART. BUYER ACKNOWLEDGES THAT THERE ARE NO WARRANTIES THAT WILL EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF, UNLESS IN WRITING AND SIGNED BY BOTH SELLER AND PURCHASER.

The Buyer acknowledges that (s)he is not relying on Metal Forms Corporation's skill or judgment to select or furnish machines or equipment suitable for any particular purpose.

METAL FORMS CORPORATION MAKES NO WARRANTIES OR REPRESENTATIONS AND ASSUMES NO RESPONSIBILITIES IN RESPECT TO PARTS OR COMPONENTS NOT MANUFACTURED BY METAL FORMS CORPORATION.

NOTWITHSTANDING THE PROVISIONS OF ANY APPLICABLE STATUE, THE REMEDIES AVAILABLE TO THE BUYER AS SET FORTH IN THIS AGREEMENT, ARE EXCLUSIVE REDEDIES, AND ALL OTHER REMEDIES, STATUTORY OR OTHERWISE, ARE HEREBY EXPRESSLY WAIVED BY THE BUYER. METAL FORMS CORPORATION SHALL NOT BE RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THIS WARRANTY OR BREACH THEREOF.

SPECIFICATIONS - ACCESSORY ITEMS

Options and Accessories:

DOLLY: UNIT USED IN CONJUNCTION WITH TRANSPORT TONGUE FOR MANEUVERING SCREED ON JOB SITE.

FINEGRADING ATTACHMENT: A VERTICALLY ADJUSTABLE BLADE DESIGNED FOR FINEGRADING LOOSE MATERIAL. FINEGRADING BLADES ARE AVAILABLE IN INCREMENTS OF 5 FOOT, 2 FOOT AND 1 FOOT LENGTHS.

HYDRAULIC WINCHING: END FRAMES CONTAIN HYDRAULIC OIL TANKS, MOTORS, PUMPS, HOSES, FLOW CONTROL VALVES, AND RELIEF VALVES. ALLOWS MACHINE TO BE WINCHED THROUGH USE OF THE SAME MOTOR ALREADY RUNNING THE VIBRATING SHAFT.

INSIDE & OUTSIDE GUIDE PLATES: AVAILABLE FOR SPECIAL APPLICATIONS SUCH AS PAVING ON SUPER ELEVATIONS AND PAVING CURB TO CURB OR SLAB TO SLAB.

OFFSET PLATE: ADJUSTABLE ADAPTOR PLATE MOUNTS ON END FRAME(S) FOR RECESS PAVING OR POURING AGAINST WALLS.

SCREED EXTENDERS: AN 8" EXTENSION, MADE OUT OF FINISHING TUBE MATERIAL, EXTENDING FROM BACK SIDE OF THE END FRAME ASSEMBLY. WITH THE USE OF FOUR (4) EXTENDERS THE OVERALL SCREEDLENGTH WILL INCREASE BY 16 INCHES.

TRANSPORT TONGUE: VERTICALLY ADJUSTABLE TRAILER COUPLING USED TO ATTACH SCREED TO DOLLY OR PICK-UP TRUCK WITH 2" STANDARD BALL, FOR MANEUVERING AROUND JOBSITE.

TRANSPORT WHEEL ASSEMBLY: TRANSPORTATION UNIT FOR MANEUVERING SCREED ON JOBSITE.

WINCHING FROM ONE END: FOR SITUATIONS THAT REQUIRE A ONE-MAN OPERATION, THIS IS SET-UP WITH BOTH HAND WINCHES ADAPTED TO ONE END FRAME.

SPECIFICATIONS - ACCESSORY ITEMS

End Frames, Hydraulic Winching:

ITEM	PART NO	DESCRIPTION	QUANTITY
1	580-80	END FRAME (ENGINE END)	1
	580-81	END FRAME (EXTENSION END)	1
2	020-880	CAP SCREW 1-1/4"-7	1
3	580-155	HYDRAULIC OIL TANK (ENGINE END)	1
	580-156	HYDRAULIC OIL TANK (EXT. END)	1
4	580-324	OIL FILL CAP / BREATHER FILTER	1
5	580-044	BEARING	1
6	580-107	PUMP, ENGINE END	1
	580-108	PUMP, EXTENSION END	1
7	580-240	LIFT HANDLE	2
8a	580-101-1	PUMP DRIVE COUPLING -3/4" BORE	1
8b	580-101-2	PUMP DRIVE COUPLING -1/2" BORE	1
8c	580-101-3	PUMP DRIVE SPIDER	1
9	580-179	SAFETY LINK	1
10	580-48	SNATCH BLOCK*	1
11	580-180	1/8" DIA. AIRCRAFT CABLE*	75'
12	020-499	3/8"-16 x 2-1/2" HEX HD CAP SCREW	5
13	040-438	3/8"-16 SELF LOCKING NUT	7
14	020-430	3/8"-16 x 3" HEX HEAD CAP SCREW	2
15	041-138	3/8" FLAT WASHER	2
16	580-178	CABLE CLAMP*	1
17	580-50	HOOK*	1

*not shown in drawing

OIL RESERVOIR CAPACITY:

SPEED SCREED 580-APPROXIMATELY 2.7 U.S. GALLONS
SPEED SCREED280 -APPROXIMATELY 1.1 U.S. GALLONS

HYDRAULIC FLUID RECOMMENDATIONS:

MOBILE DTE 26 OR GOOD QUALITY HYDRAULIC OIL WITH A VISCOSITY RANGE BETWEEN 150-250 SSU (32-54 CST) AT 100° F (38° C)

OIL FILTER: CANISTER TYPE (Please Recycle)

PUMP: GEAR TYPE. 5000 PSI RATING. ENGINE SIDE SPINS CCW. EXTENSION SIDE CW.

DRIVE MOTORS: OVERSIZE HIGH TORQUE, LOW SPEED CONTINUOUS DUTY.

FLOW CONTROL VALVE: FULL RANGE ACHIEVED (0-12 F.P.M.) W/i 1 REV. OF KNOB.

PRESSURE RELIEF VALVE: SET AT 1,500 P.S.I.

PUMP DRIVE COUPLING: OVERSIZE HIGH-SPEED W/ REPLACEABLE FLEXING CENTER ELEMENT. SHAFT END: ¾"BORE. PUMP END: ½" BORE

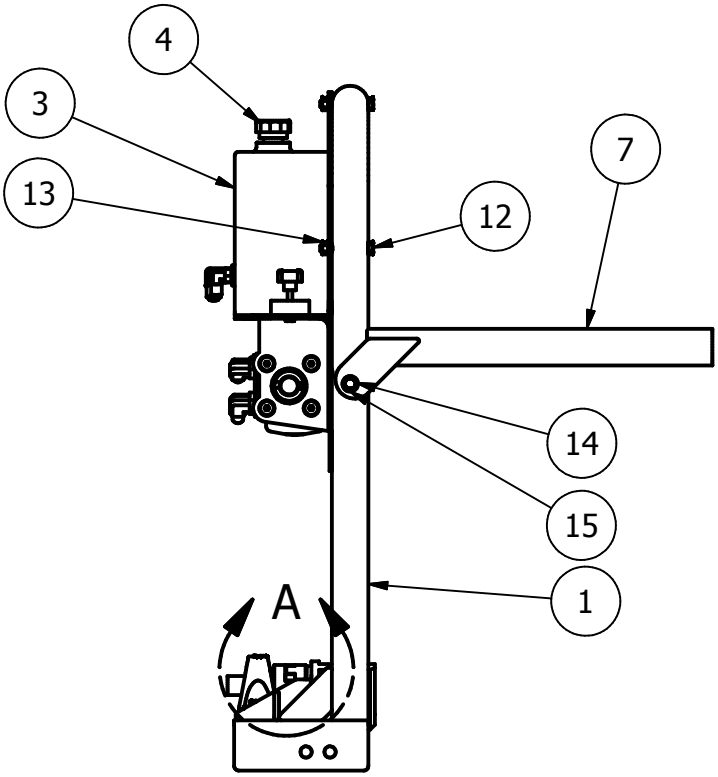
SPECIFICATIONS - ACCESSORY ITEMS

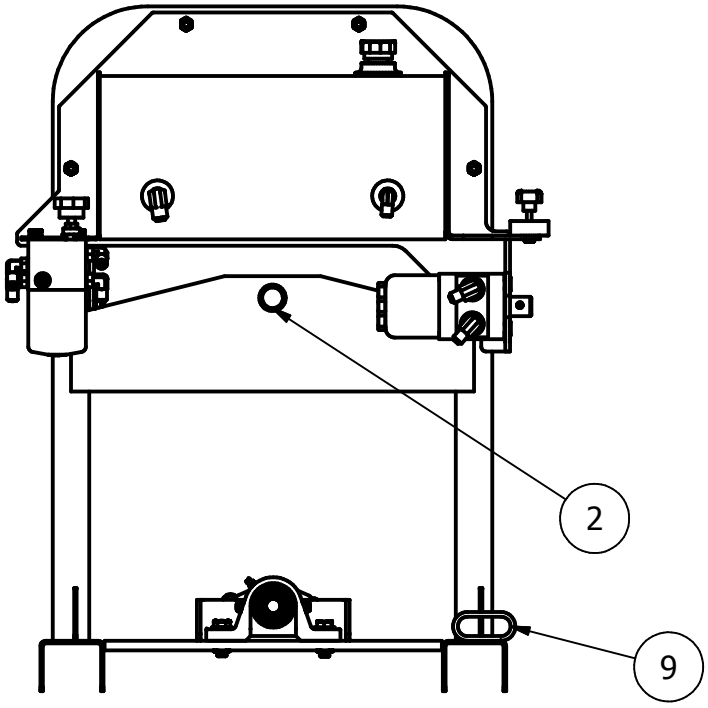
End Frames, Hydraulic Winching:

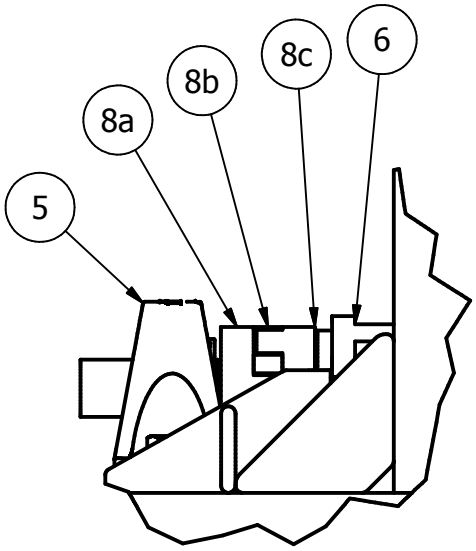
Figure 1 (right): Side View of Hydraulic End Frame (some components not shown)

Figure 2 (below): Front View of Hydraulic End Frame

Detail A: Detail view of Pump Drive Coupling Assembly.







DETAIL A

SPECIFICATIONS - ACCESSORY ITEMS

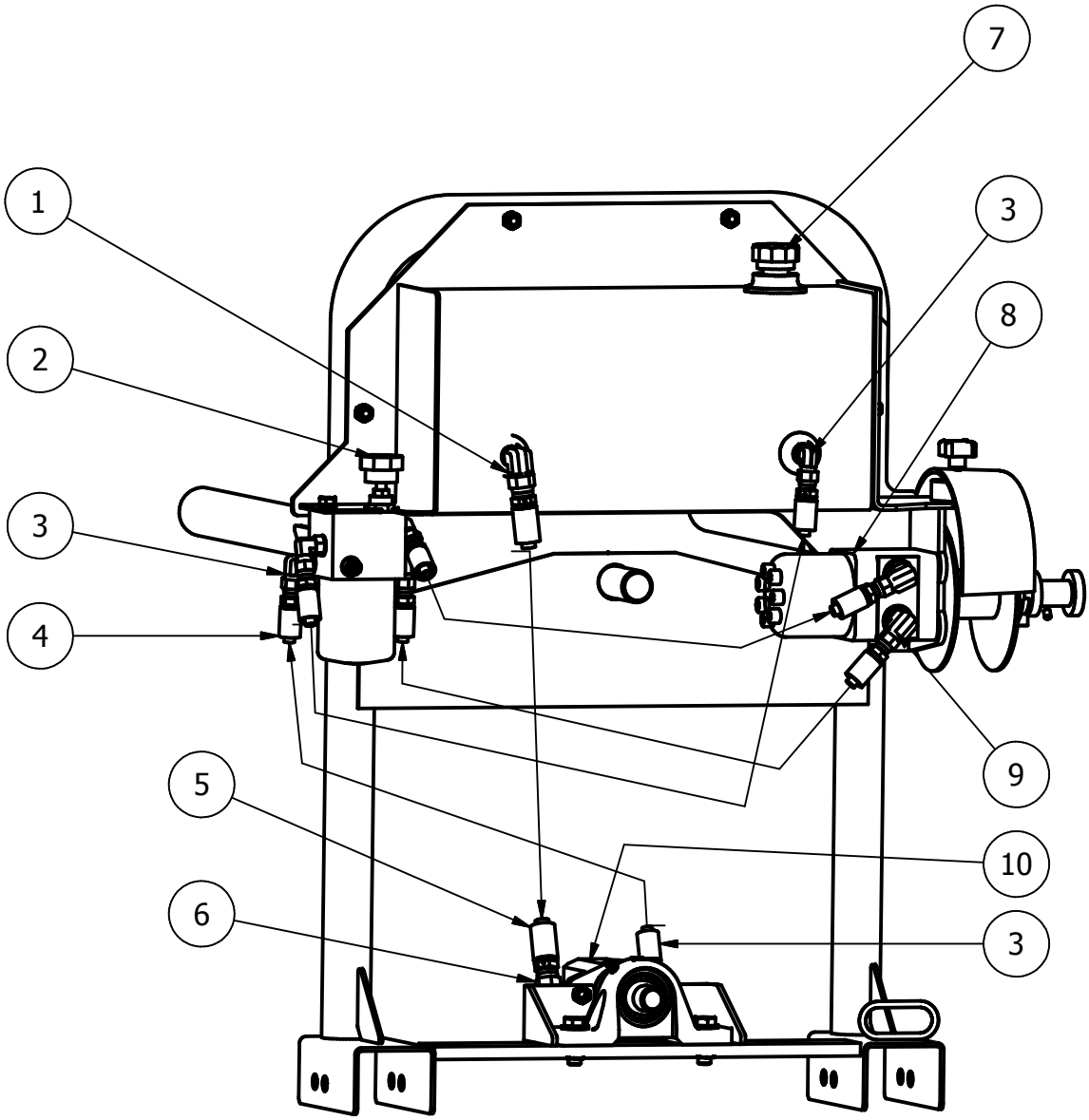
Hydraulic Components: Bill of Materials

ITEM	PART NO	DESCRIPTION	QTY. PER END FRAME
1	580-109	90 deg. Elbow orb-6 M to JIC-8 M	**1**
2	580-374	Integrated Hydraulic Control Unit	**1**
3	580-375	3/8" ORB - 1/4" JIB 90 deg. Elbow	**6**
4	580-308	hose, 1/4" x 30,JIC-6 swivel female ends	**4**
5	580-309	hose, 1/2" x 26", JIC-8 swivel female ends	**1**
6	580-112	90 deg. Elbow. Orb-8 M to JIC-8 M	**1**
7	580-324	filler breather cap 1" NPT	**1**
8	580-077	Hydraulic Motor (ORB-10)	**1**
9	580-111	90 deg. Elbow, ORB-10 M to JIC-6 M	**2**
10	580-107	Pump, Hydraulic, RH (engine end) 5000 psi CCW	**1**
	580-108	Pump, Hydraulic, LH (ext. end) 5000 PSI CW	**1**

NOTE: Reference drawing is for engine-side end bail. The only difference between the engine-side and the extension-side is the hydraulic motor being turned 180 deg.

SPECIFICATIONS - ACCESSORY ITEMS

Hydraulic Components & Flow Diagram:

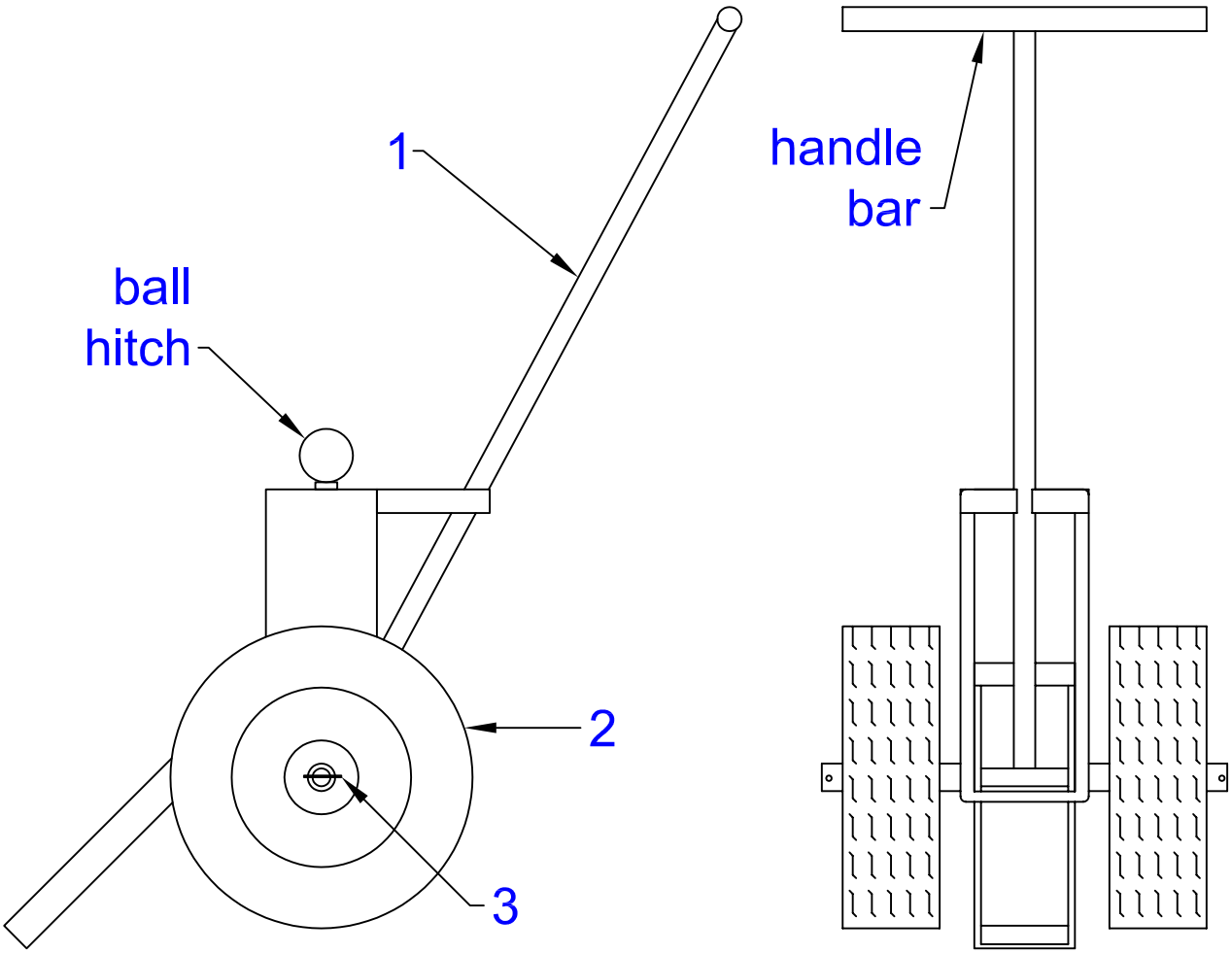


SPECIFICATIONS - ACCESSORY ITEMS

Dolly: To be used in conjunction with Tongue Assembly.

ITEM	PART NO	DESCRIPTION	QUANTITY
1	580-183	DOLLY SUBASSEMBLY	1
2	580-184	RIM & TIRE	2
3	046-230	COTTER PIN	2

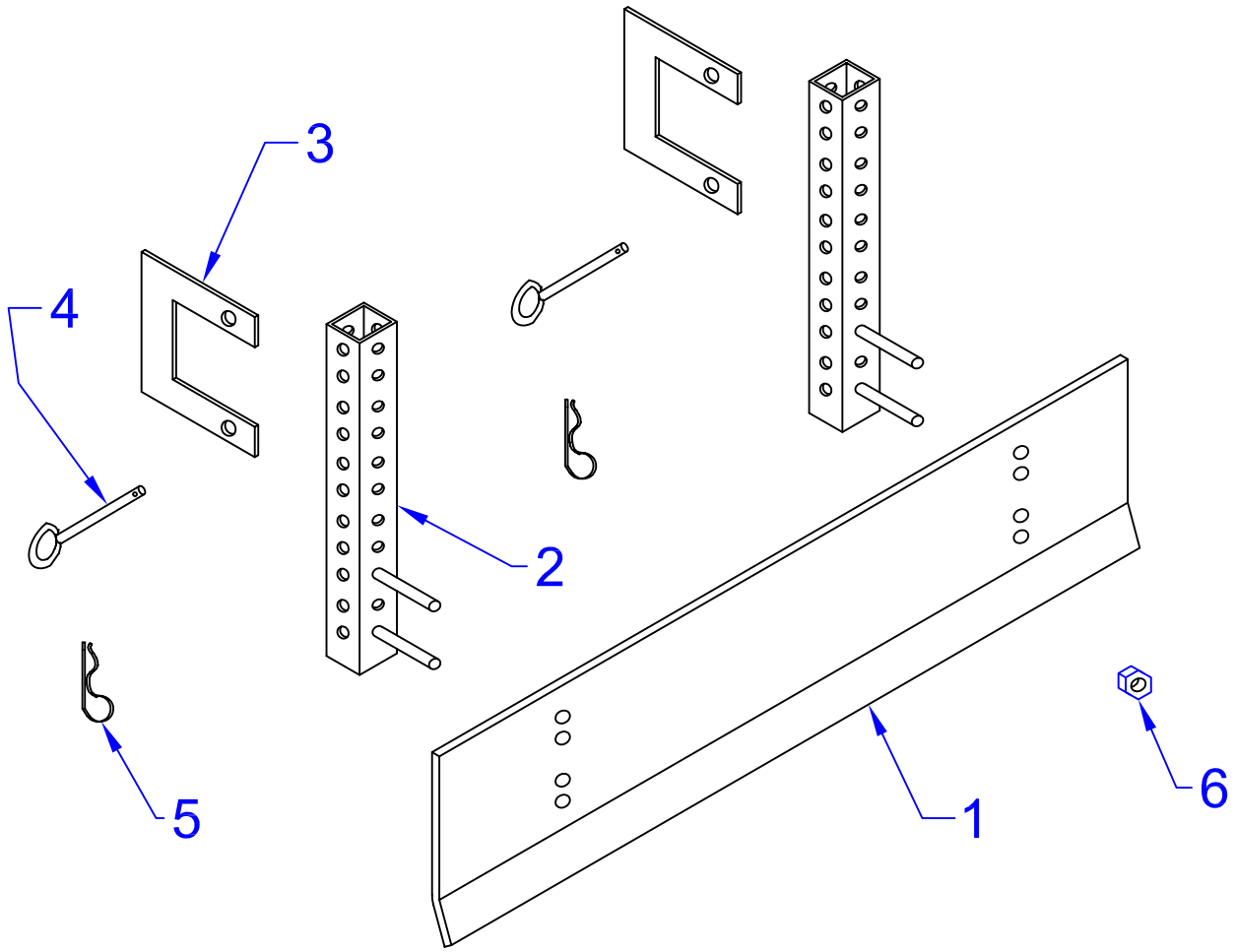
side view **rear view**



SPECIFICATIONS - ACCESSORY ITEMS

Finegrading Attachment:

ITEM	PART NO	DESCRIPTION	QUANTITY
1	580-143	BLADE (SPEC. LENGTH)	AS REQUIRED
2	580-144	MOUNT TUBE	AS REQUIRED
3	280-145	MOUNT CLIP	AS REQUIRED
4	580-146	CLIP PIN	AS REQUIRED
5	580-147	CLINCH PIN	AS REQUIRED
6	040-438	3/8" SELF LOCKING NUT	AS REQUIRED



SPECIFICATIONS – ACCESSORY ITEMS

Spare parts kit # 580-900
(for hand winch units)

Parts Included:	p/n	qty.
turnbuckle w/locknut	580-27	1
lap plate	580-28	2
saddle	580-016	2
safety link	580-179	2
hex head cap screw	020-593	8
set screw	028-450	4
lock nut, ½"	040-450	8

Spare parts kit # 580-902
(for hydraulic winch units)

Parts Included:	p/n	qty.
turnbuckle w/locknut	580-27	1
lap plate	580-28	2
saddle	580-016	2
safety link	580-179	2
hex head cap screw	020-593	8
set screw	028-450	4
lock nut, ½"	040-450	8
pump drive coupling, ¾" bore	580-104-1	1
pump drive coupling ½" bore	580-104-2	1
pump drive spider	580-104-3	1

NOTE: PARTS MAY BE ORDERED SEPERATELY

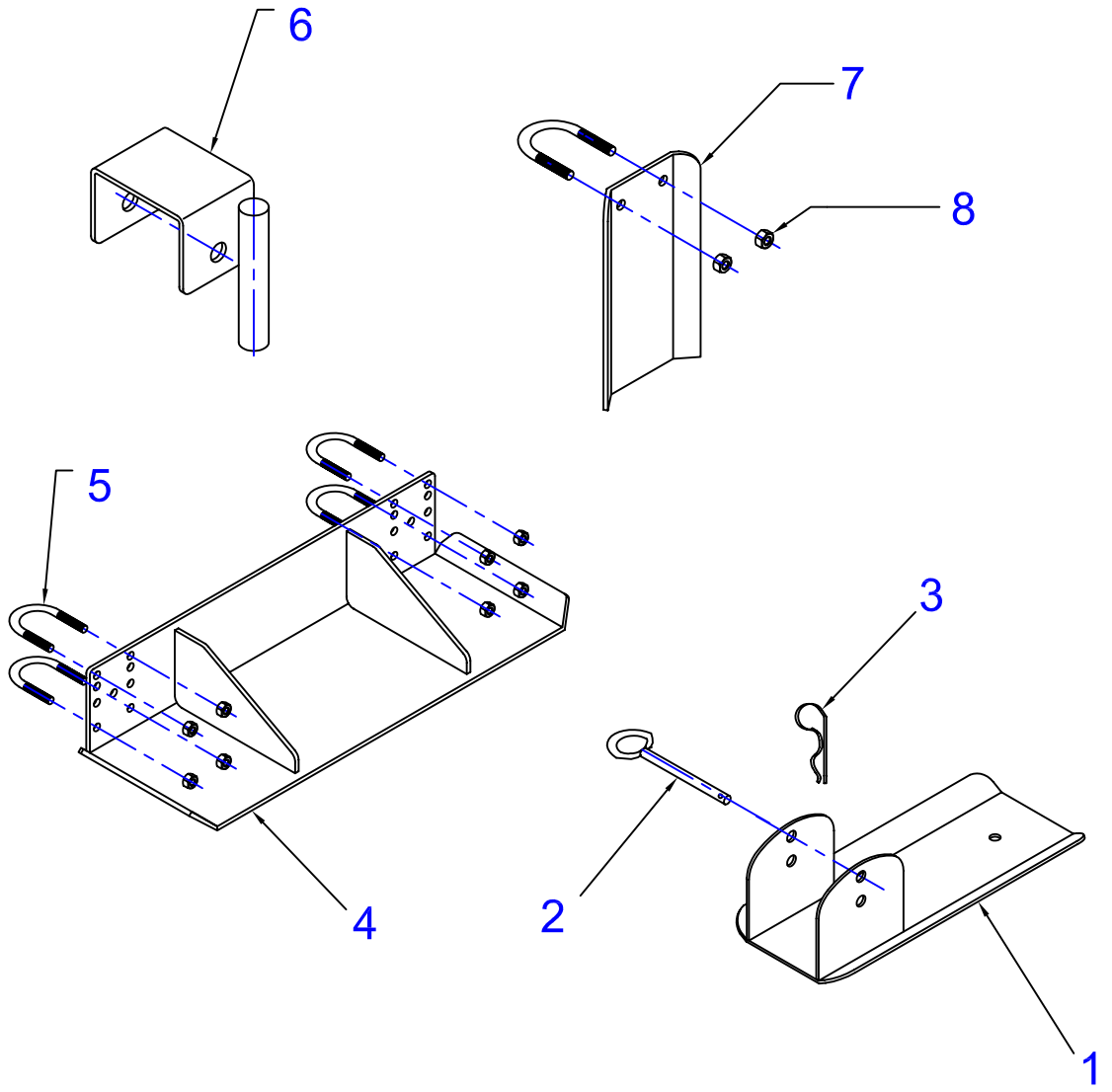
SPECIFICATIONS - ACCESSORY ITEMS

Offset Plates & Guide Plates:

ITEM	PART NUMBER	DESCRIPTION	QUANTITY
1	580-99	SKI	2
2	046-655	CLEVIS PIN	2
3	580-147	HAIR PIN	2
	046-238	COTTER PIN	2
4	580-62	OFFSET PLATE	AS REQUIRED
5	044-138	U-BOLT	AS REQUIRED
	040-438	SELF LOCK NUT	AS REQUIRED
6	580-148	INSIDE GUIDE PLATE	AS REQUIRED
7	580-122	OUTSIDE GUIDE PLATE	AS REQUIRED

SPECIFICATIONS - ACCESSORY ITEMS

Offset Plates & Guide Plates:



SPECIFICATIONS - ACCESSORY ITEMS

Transportation Unit:

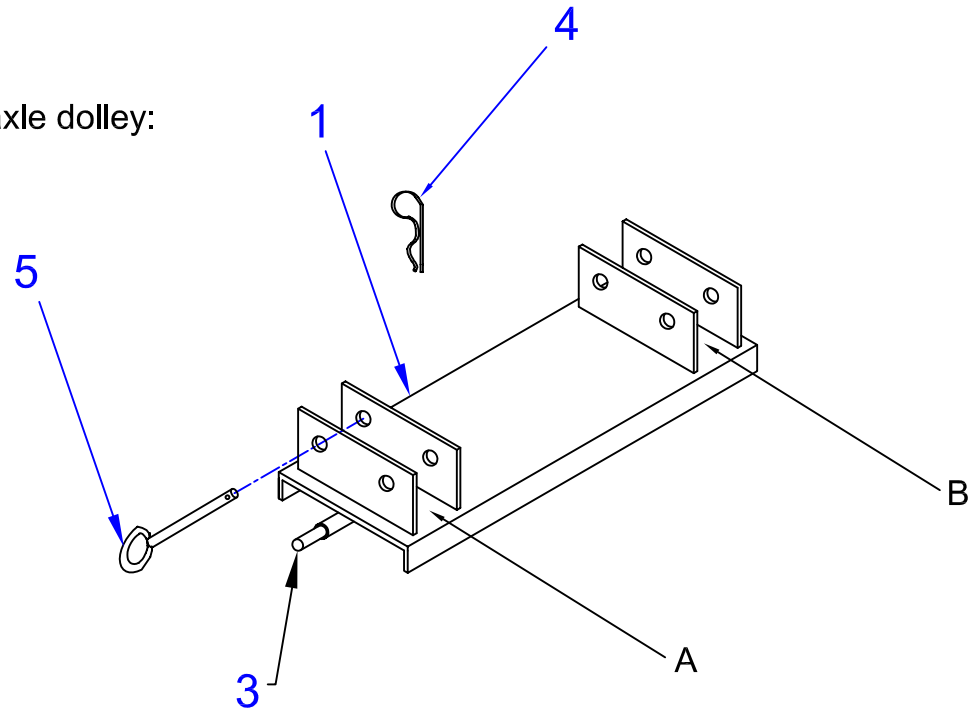
ITEM	PART NO	DESCRIPTION	QUANTITY
1	580-105	TRANSPORT MOUNT	1
2	580-184	TIRE & RIM*	2
3	580-398	HUB ASSEMBLY	2
		HUB	2
		SEAL	2
		INNER BEARING	2
		OUTER BEARING	2
		SPINDLE NUT & WASHER	2
		CAP	2
4	580-147	CLIP (hairpin)	4
5	046-655	CLINCH PIN	4

*not shown in drawing

Installation:

Transportation Unit attaches to any screed section with four clinch pins. Place finishing tubes through locations A and B, then insert clinch pins through holes. Secure clinch pins with hairpins.

Single axle dolley:



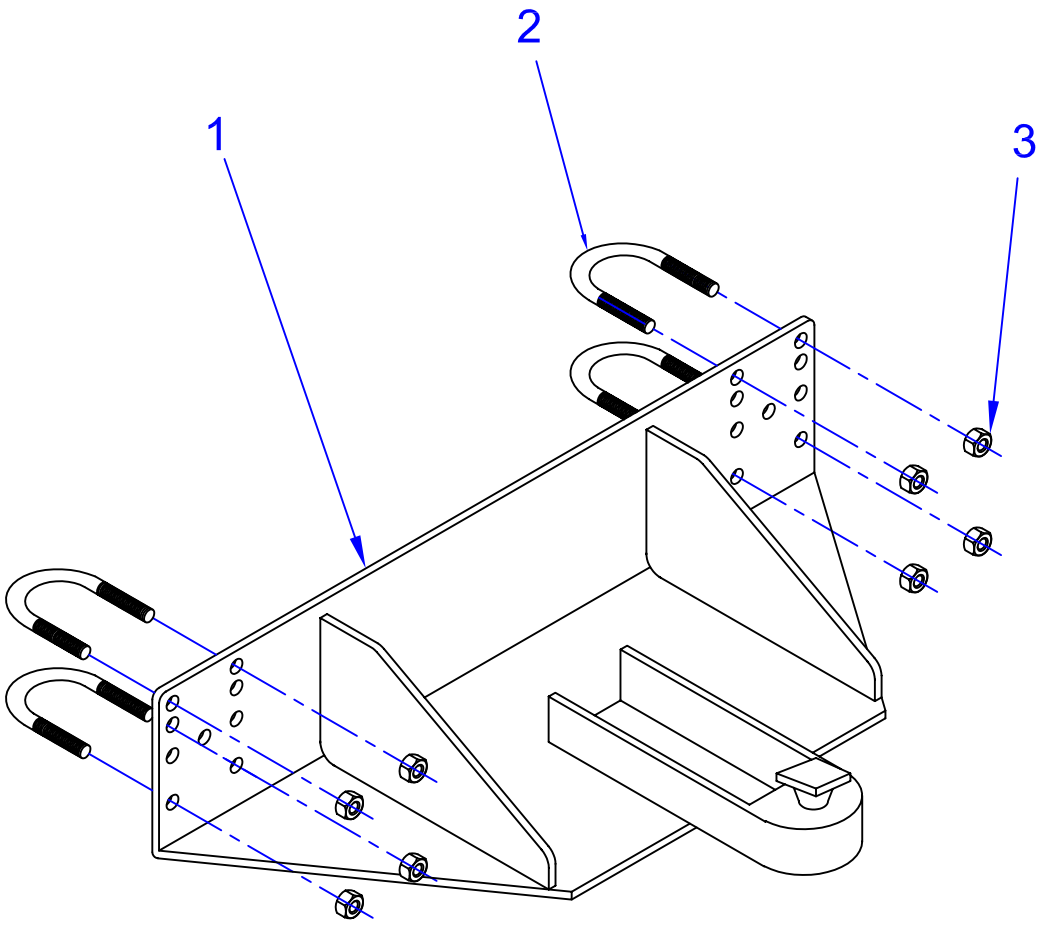
SPECIFICATIONS - ACCESSORY ITEMS

Transportation Unit: Tongue Assembly

ITEM	PART NO	DESCRIPTION	QUANTITY
1	580-190	TONGUE SUBASSEMBLY	1
2	044-138	U-BOLTS	4
3	040-438	3/8" SELF LOCKNUT	8

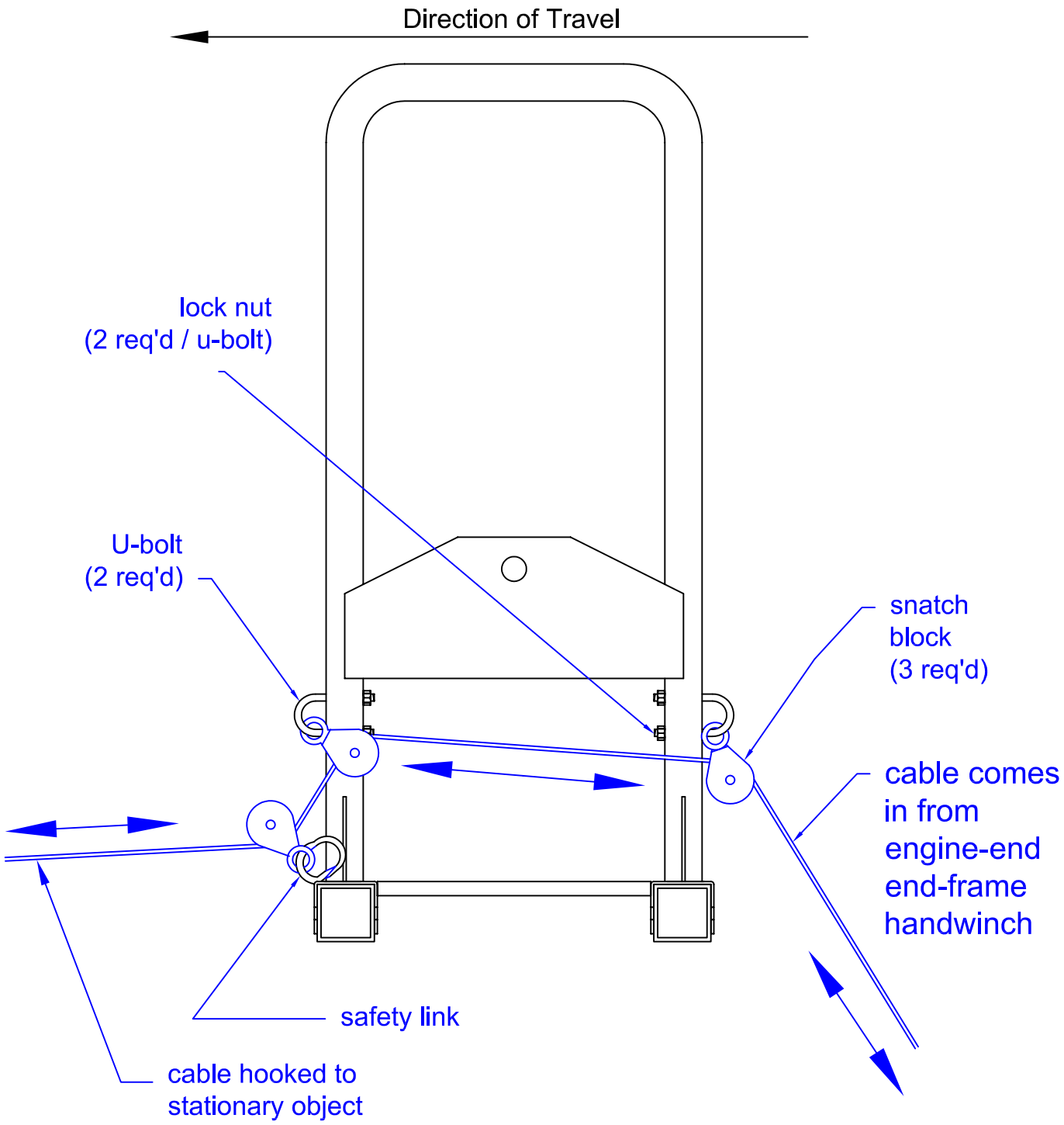
Installation:

Tongue assembly attaches to End Frame with four U-bolts.



SPECIFICATIONS - ACCESSORY ITEMS

Winching from One End: hand winches



SPECIFICATIONS – ACCESSORY ITEMS

Hydraulic Winch Assembly

WARNING

Failure to observe these instructions could lead to severe injury.

General Safety:

- Take time to fully read and understand all instructions regarding the hydraulic winch.
- Always use factory-approved switches, controls, accessories, and installation components.
- Always keep loose clothing away from operating winch.
- Never modify the cable hook by welding or attaching to it.
- Never obscure warning or instruction label.
- Never use cable as a ground for welding.
- Always turn off engine before performing any maintenance or repair, or before working around winch spool.
- Never work on or around winch spool when winch is under load.
- Always refer repairs to qualified technicians.
- Never machine or weld any part of winch.
- Never use winch to hold loads.
- Never use as a hoist for lifting, supporting, or transporting people, or over areas where people are present.
- Always use Grade 5 or better hardware.
- Never weld bolts and never use longer bolts than those supplied from factory.

Installation Safety:

- Always take your time when rigging for a winch pull.
- Always wear heavy gloves when handling cable. Do not allow cable to slide through hands.
- Never put finger through hook. If fingers should become trapped in hook, they can be lost.
- Always choose a stationary object as an anchor.
- Always choose an anchor that is sufficiently strong to withstand the maximum pulling capacity of your winch.
- Never winch with less than 3 wraps of cable around the spool. The cable could come loose from the spool.
- Always hook the cable as low as possible.
- Always be certain the hook will not slip.
- Always lay a heavy blanket or tarp over cable near hook end, when operating winch under heavy loads. If cable or hook failure should occur, cloth will help prevent rope whipping.
- Always, prior to using winch, remove any obstacle that may interfere with safe operation.
- Always pre-stretch cable and re-spool under load before use.
- Never step over cable or allow anyone else to do so.

Winch Safety:

- Always require operator and bystanders to be aware of cable during winch operation.
- Always inspect winch installation and cable condition before operating winch. If cable has a fray, kink, or other damage, it must be replaced immediately. Loose or damaged winch installation must be corrected immediately.
- Never hook cable back onto itself. This damages the cable.
- Never exceed winch, cable, or accessory's rated capacity.
- Always keep the cable in close alignment with the spool.
- Always keep others away from cable, hook, and spool while winch is in operation.
- Never operate with wet or oily hands.
- Never guide wire rope onto drum with hands.
- Never allow shock loads to be applied to winch or cable.
- Never leave the winch controls unattended while in operation.
- Never touch the cable or hook while in tension or under load.
- Always stand clear of cable and spool during winch operation.
- Never operate this winch when under the influence of drugs, alcohol, or medication.

SUPPLEMENTS

Extra Safety Link:

We have included an extra safety link, in order to emphasize its importance in protecting the machine and its operators from damage and injury.

If the machine becomes caught, stuck, or held in place, and the winches continue to turn, the safety link is designed to uncoil itself, momentarily releasing the machine from the tension implied by the winch. **The winch operation must cease immediately after the safety link uncoils.** Some examples of catch points include 1) forms not lining up correctly, 2) stakes sticking up too high, 3) manhole covers, 4) plumbing stacks, and 5) protruding re-bar.

WARNING: The absence of a safety link can result in serious injury to workers, and significant damage to the machine. Do not remove the Safety Link. Do not modify the Safety Link (for example, do not weld the link closed).

If the machine becomes caught, and there is no safety link, the cable tension may become so great that the cable or cable-keeper may fail. This could result in a violent whip of the stainless steel cable, exerted by hundreds of pounds (or more) of force.

To avoid injury, follow these operating guidelines:

1) Always inspect the cable and hook before each use to make sure they are not damaged. Replace the cable if it is has one or more frays or kinks. If the cable or hook breaks, the cable can act like a whip, and can inflict serious injury to anyone in the cable's path.
2) Never stand alongside the winch cable.
3) Never guide the winch cable with your hands.
4) Never operate with wet or oily hands.
5) Never leave winch unattended, as unauthorized persons may attempt to operate the winch, thereby creating an unsafe condition.
6) Always keep loose clothing away from operating winch.
7) Always keep at least three (3) wraps of cable around spool.
8) Do not modify the cable hook by welding or attaching anything to it.

NOTE: IF A SAFETY LINK UNCOILS FOR ANY REASON, WE RECOMMEND REPLACEMENT.

- ✓ ALWAYS HAVE A SPARE WITH YOU.
- ✓ USE NO SUBSTITUTES.
- ✓ NEVER USE A THREADED CHAIN LINK, SPRING-LOADED CLIP, OR ANY OTHER DEVICE.
- ✓ ORDER ADDITIONAL SAFETY LINKS AT (414)964-4550

SUPPLEMENTS

Warranty Card Instructions :

We have included a Warranty Activation Card with your Speed Screed Unit. It should be attached to the engine. In order to activate your warranty, you must submit the requested purchaser information to Metal Forms Corporation. If you are missing your Warranty Activation Card, use the one at the bottom of this page. You may fax it in, call it in, or mail it in.

FAX: 414-964-4550

PHONE: 414-964-4550

MAIL: 3334 North Booth Street, Milwaukee, WI 53212

✓ WE MAY NOT BE ABLE TO GRANT WARRANTY CLAIMS IF THE ACTIVATION IS NOT ON FILE.

Warranty Activation Card

Company Name: _____

Company Address: _____

Date of Purchase: _____

Name of Dealer: _____

Serial #: _____

SUPPLEMENTS

Additional Field Instructions Available :

The following instructions are available for immediate faxing to your location. Call us at (PHONE) 414-964-4550 or FAX: 414-964-4550.

	Instruction #	Title	Abstract
√ ☐	MN-02-15	How to move an End Frame from one section to another.	End frames can be moved from the non-engine-end of a *section*, to the end of any other *section*.
☐	MN-02-25	How to replace a hydraulic pump on a machine produced before 1-1-2007	Machines produced after 1-1-2007 have a newer, more powerful hydraulic pump. It is longer than the former pump, and some modifications have to be made to fit it onto older end frames.

SUPPLEMENTS

Most Common Replacement Parts for Engines :

The following parts are available for shipping to your location. Call us at 414-964-4550 or FAX: 414-964-4550.

FOR 5.5 H.P. HONDA GX160

√	Part #	Description
	195-690	Fuel Tank #17510-ZE1-020ZB
	195-132	Spark Plug #98079-55846
	195-185	Dip Stick #15600-ZE1-000
	195-176	Oil Fill Cap #15600-ZG4-003
	195-180	Oil Fill Cap Gasket #15621-896-010
	195-675	Gas Cap #17620-ZH7-013
	195-332	Recoil Assy. (starter assy.) #28400-ZH8-0132ZA
	195-543	Air Filter Assy. #17210-ZE1-505
	280-52	Clutch

FOR 8 H.P. HONDA GX240

√	Part #	Description
	195-681	Fuel Tank #17510-ZE2-010ZA
	195-132	Spark Plug #98079-55846
	195-176	Dip Stick #15600-ZG4-003
	195-177	Oil Fill Cap #15600-735-003
	195-182	Oil Fill Cap Gasket #15625-ZE1-003
	195-675	Gas Cap #17620-ZH7-013
	195-318	Recoil Assy. #28400-ZE2-W01ZA
	195-523	Air Filter Assy. #17210-ZE2-822
	580-64	Clutch

FOR 11 H.P. HONDA GX340

√	Part #	Description
	195-673	Fuel Tank #17510-ZE3-010ZA
	195-132	Spark Plug #98079-55846
	195-176	Dip Stick #15600-ZG4-003
	195-177	Oil Fill Cap #15600-735-003
	195-182	Oil Fill Cap Gasket #15625-ZE1-003
	195-675	Gas Cap #17620-ZH7-013
	195-340	Recoil Assy. #28400-ZE3-W01ZA
	195-535	Air Filter Assy. #17210-ZE3-010
	580-64	Clutch

FOR 13 H.P. HONDA GX390

√	Part #	Description
	call	Fuel Tank
	call	Spark Plug
	call	Dip Stick
	call	Oil Fill Cap
	call	Oil Fill Cap Gasket
	call	Gas Cap
	call	Recoil Assy.
	call	Air Filter Assy.
	580-64	Clutch