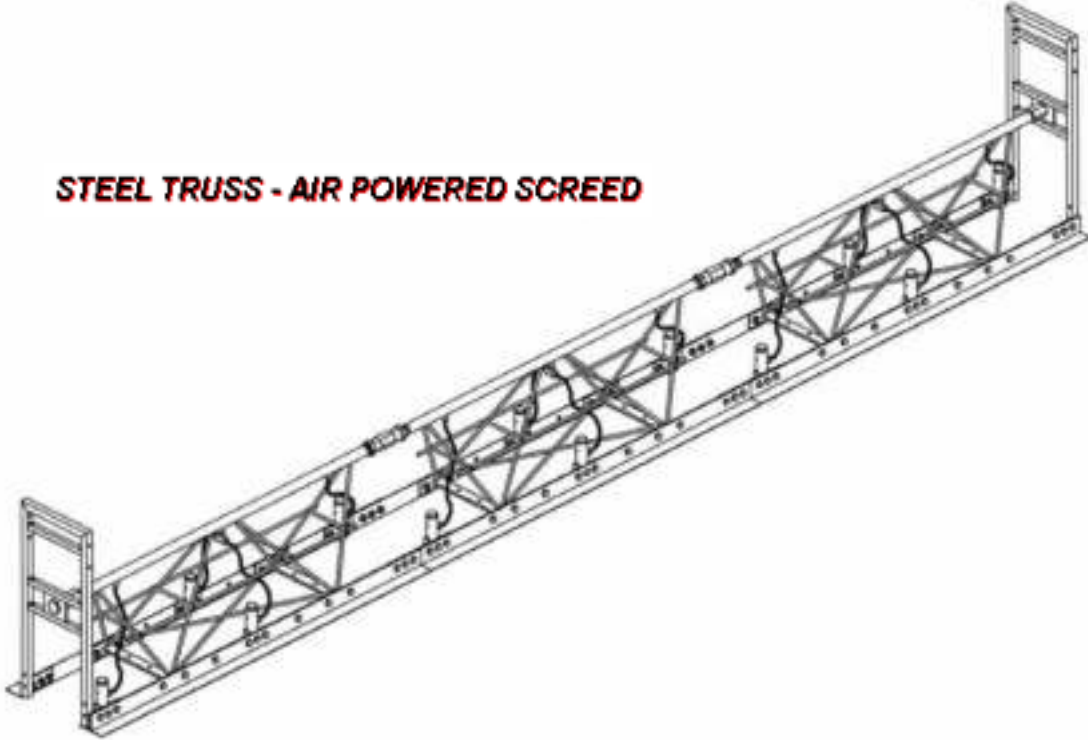




RAZORBACK

POWER SCREEDS

STEEL TRUSS - AIR POWERED SCREED



O P E R A T I O N S M A N U A L

MODELS

12SX

12HD

12SHD

allen
ENGINEERING
CORPORATION®

LIMITED WARRANTY

Allen Engineering Corporation warrants its products to be free of defects in material or workmanship for the following periods:

A. All New Machines and Part	6 Months
B. All New Gear Boxes	2 Years
C. All Factory Reconditioned Gear Boxes	1 Year

Warranty period begins on first day of use by End User. This first day of use is established by a completed warranty card or a Bill of Sale to the end user. All warranty is based on the following limited warranty terms and conditions.

1. Allen Engineering Corporation's obligation and liability under this warranty is limited to repairing or replacing parts if, after Allen's inspection, it is determined to be a defect in material or workmanship. Allen Engineering Corporation reserves the choice to repair or replace.
2. If Allen Engineering Corporation chooses to replace the part, it will be at no cost to the customer and will be made available to the Distributor/Dealer from whom the customer purchased the product.
3. Replacement or repair parts, installed in the product, are warranted only for the remainder of warranty period of the product as though they were the original parts.
4. Allen Engineering Corporation's warranty applies only to the products that are manufactured by Allen Engineering and does not cover component parts such as engines and clutches. Allen Engineering Corporation **DOES NOT** warranty clutches. Engine warranty claims should be made directly to an authorized factory service center for the particular engine make.
5. Allen Engineering Corporation's warranty does not cover the normal maintenance of products or its components (such as engine tune-ups and oil changes). The warranty also does not cover normal wear and tear items (such as belts and consumables).
6. Allen Engineering Corporation's warranty will be void if it is determined that the defect resulted from operator abuse, failure to perform normal maintenance on the product, modification to product, alterations or repairs made to the product without the written approval of Allen Engineering Corporation. Allen Engineering Corporation also excludes from warranty any failure of clutches on any engine driven piece of equipment.
7. If a new gear box has a factory defect within the first year of use, Allen Engineering Corporation will either repair the gear box or replace it with a new gear box. If a new gear box has a factory defect in the second year of use, Allen Engineering Corporation will either repair it or replace it with a factory reconditioned gear box. Impact damage is **NOT** covered under the gear box warranty.
8. Allen engineering Corporation will pay shop labor repair on warranty at the Allen Engineering Shop Labor Rate in existence on the date of the warranty claim. An Allen Engineering Labor Chart will determine the time allowed to complete a repair and will govern the shop labor hours that will be allowed.
9. Allen Engineering Corporation will pay freight on warranty replacement parts at Worldwide standard ground rates. No warranty replacement parts will be shipped air freight at the expense of Allen Engineering Corporation. Allen Engineering only pays outbound freight charges when sending warranty replacement parts to the customer VIA ground service. Allen Engineering does not pay any inbound freight, however, if Allen Engineering determines this to be warranty defect only then will Allen Engineering reimburse the customer for inbound freight at standard ground rates.
10. Allen Engineering Corporation's warranty policy **WILL NOT COVER** the following; taxes, shop supplies, environmental surcharges, air freight, travel time, loss of rental revenue, or any other charges whatsoever or any liabilities for direct, incidental, or consequential damage or delay.
11. **Allen Engineering Corporation makes no other warranty, expressed or implied. This limited warranty is in lieu of the warranty of merchantability and fitness. There are no other warranties that extend beyond the description on this document.**
12. No Allen Engineering Corporation employee or representative is authorized to change this warranty in any way or grant any other warranty unless such change is made in writing and signed by an officer of Allen Engineering

STEEL TRUSS

AIR POWERED SCREED

O P E R A T I O N S MANUAL

NOTE: THIS MANUAL IS BROKEN UP INTO THE FOLLOWING PARTS

**OPERATIONS
SECTION 1**

**PARTS
SECTION 2**

MODELS - 12SX 12HD 12SHD

**ALLEN RAZORBACK SCREEDS ARE COVERED BY ONE OR MORE OF THE FOLLOWING
PATENTS:**

U.S. PATENTS: 4,249,327; 4,316,715; 4,349,328; 4,363,618; 4,375,351; 4,412,803; 4,544,346; 4,630,964; 4,648,741; 4,685,826;

OPERATIONS

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• INFORMATION CONTAINED IN THIS MANUAL •

OPERATIONS SECTION 1

The information contained in this manual provides important procedures to safely operate and maintain your air powered screed. The steps that are illustrated in this manual must be followed otherwise the life of the machine could be greatly shortened due to operator neglect. Remember that a machine that is well taken care of will provide many years of trouble free operation.

For your own protection and safety, always adhere to the safety warnings and notes that are pointed out in this manual. Disregard to these instructions could lead to personal injury or possibly even death.

• ORDERING PARTS •

This manual contains an illustrated parts list to help you in ordering replacement parts for your air powered screed. Follow the instructions below carefully when ordering parts to insure that you get the exact parts that you are wanting.

- All orders for service parts include a serial number. Shipment of your parts will be delayed if this information is not available when you call Allen Engineering Customer Service.
- Include the description and correct part number from Section 2, as well as, the quantity needed.
- For prompt and accurate shipments, specify exact shipping instructions, including preferred routing and complete destination address.
- DO NOT return parts to Allen Engineering without receiving written authorization from Allen Engineering Corporation. All authorized returns must be shipped pre-paid.

When placing an order, contact your nearest Allen Engineering Distributor or call Customer Service at 800-643-0095 or 870-236-7751.

THIS MANUAL COVERS TRUSS SCREED STARTING WITH THE FOLLOWING SERIAL NUMBERS:

2' - HED820818, 2-1/2' -



P.O. BOX 819
PARAGOULD, AR 72451-0819
USA

**WHEN ORDERING ADDITIONAL COPIES OF THIS MANUAL,
PLEASE SPECIFY THE PART NUMBER BELOW.**

037819

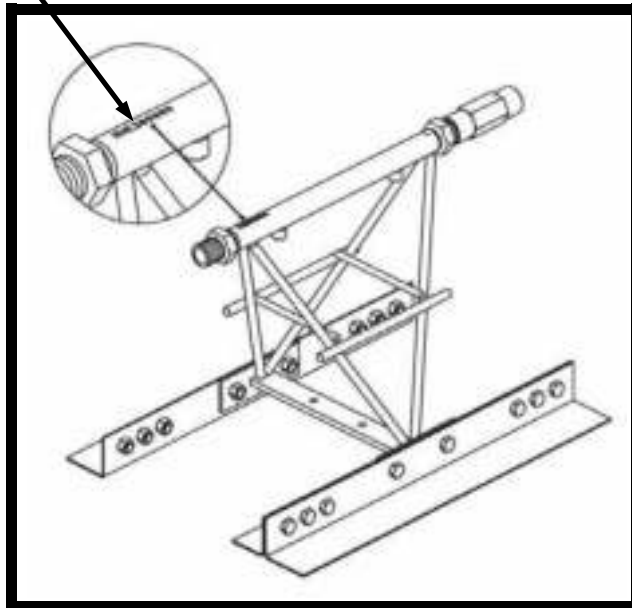
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CORPORATION ALL RIGHTS RESERVED -
CONTENTS SUBJECT TO CHANGE
WITHOUT PRIOR NOTICE.**

S1-2

OPERATIONS SECTION 1

• SERIAL NUMBER LOCATION •

LOCATION OF SERIAL #



INFORMATION ON SERIAL NUMBER

SAMPLE # - HED82243

HED = MODEL

8 = LAST DIGIT OF PRESENT YEAR

2, 3, 5, 7 = SIZE OF TRUSS ASSEMBLY

2 = MONTH OF PRESENT YEAR

43 = SEQUENCE NUMBER OF SECTION BUILT IN
PRESENT MONTH

NOTE: EVERY SECTION THAT LEAVES ALLEN ENGINEERING HAS A SERIAL NUMBER STAMPED ON THE RIGHT HAND SIDE OF THE TRUSS TOP PIPE. WHEN ORDERING PARTS, YOU WILL BE ASKED FOR THIS SERIAL NUMBER. MAKE NOTE OF ALL YOUR SECTION SERIAL NUMBERS FOR FUTURE REFERENCE.

FILL OUT SERIAL #'S HERE FOR FUTURE REFERENCE

• DISTRIBUTOR INFORMATION •

**OPERATIONS
SECTION 1**

PLACE DISTRIBUTOR INFORMATION HERE FOR FUTURE REFERENCE

DISTRIBUTOR NAME: _____ PHONE #: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

_____ S A L E S M A N : _____

ADDITIONAL COMMENTS: _____

• SAFETY NOTATIONS •

NOTE: Throughout this manual, there are **NOTES**, **CAUTIONS**, and **WARNINGS** which must be followed to reduce the possibility of improper service damage to the equipment or personal injury.

- **NOTE** - Contains additional information important to a procedure.
- **CAUTION** - Provides information important to prevent errors which could damage the machine.

OPERATIONS SECTION 1

• OPERATING SAFETY •

Familiarity and proper training are required for the safe operation of this equipment. Equipment operated improperly or by untrained personnel can damage equipment and could be dangerous. Read the operating instructions contained in both this manual to familiarize yourself with the location and proper use of all the controls.

DO NOT operate this machine until you have read the operating and safety instructions. Operate the machine in accordance with the manufacturer's instructions.

ALWAYS inspect your screed upon arrival for damage or tampering that can sometimes occur during shipping. If damage is found, file a claim with your carrier immediately!! Mark freight bill of lading as "damaged shipment".

NEVER allow untrained personnel to operate your air powered screed. Individuals who operate this screed should have adequate training in operating procedures.

DO NOT attempt to fill hydraulic(winch) tanks while machine is running.

NEVER use over-the-counter hardware to replace manufacturers hardware. Contact your nearest Allen Engineering dealer or our Customer Service department.

HAZARD: When operating machines with gas engines in confined areas, the fumes must be ventilated. Improper ventilation could lead to serious health problems or even death.

ALWAYS be aware of *HOT* components on this machine, such as, hydraulic components.



• SERVICE SAFETY •

OPERATIONS SECTION 1

DO NOT attempt to clean or service screed while machine is running.

DO NOT use gasoline, other fuels, or any flammable solvent to clean parts, especially in enclosed areas. Fumes from fuels and solvents can cause serious health problems if you are exposed to them over an extended period of time.

ALWAYS disconnect spark plug before servicing engine to prevent accidental start-up.

ALWAYS wear adequate hearing protection while running your air powered screed.

• SOUND & VIBRATION ANALYSIS •

AVERAGE EQUIVALENT SOUND PRESSURE LEVEL	SOUND PRESSURE LEVEL AT OPERATOR'S EAR	EQUIVALENT SOUND POWER LEVEL
110dB(A)	106dB(A)	126dB(A)

The information above was acquired through vibration and sound analysis taken here at AEC. We brought in a certified sound and vibration technician to test several of our products. All of the data collected was measured according to OSHA standards ISO 3744. If there are any questions on this particular subject, contact AEC Customer Service at 870-236-7751 or 800-643-0095.

OPERATIONS SECTION 1

• DIMENSIONAL PICTORIALS •

The dimensions of the air powered screed in this manual are illustrated on this page. The height and width are in Figure 1 and the lengths of the different screed sections available are illustrated in Figure 2.

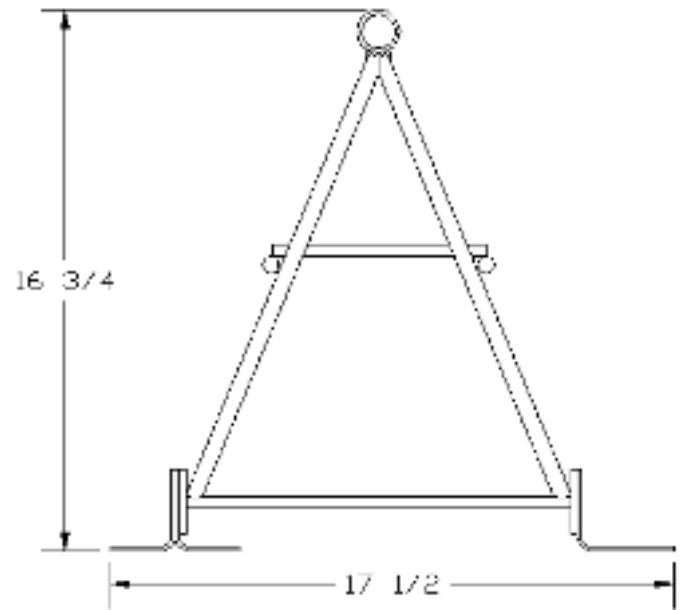


FIGURE 1

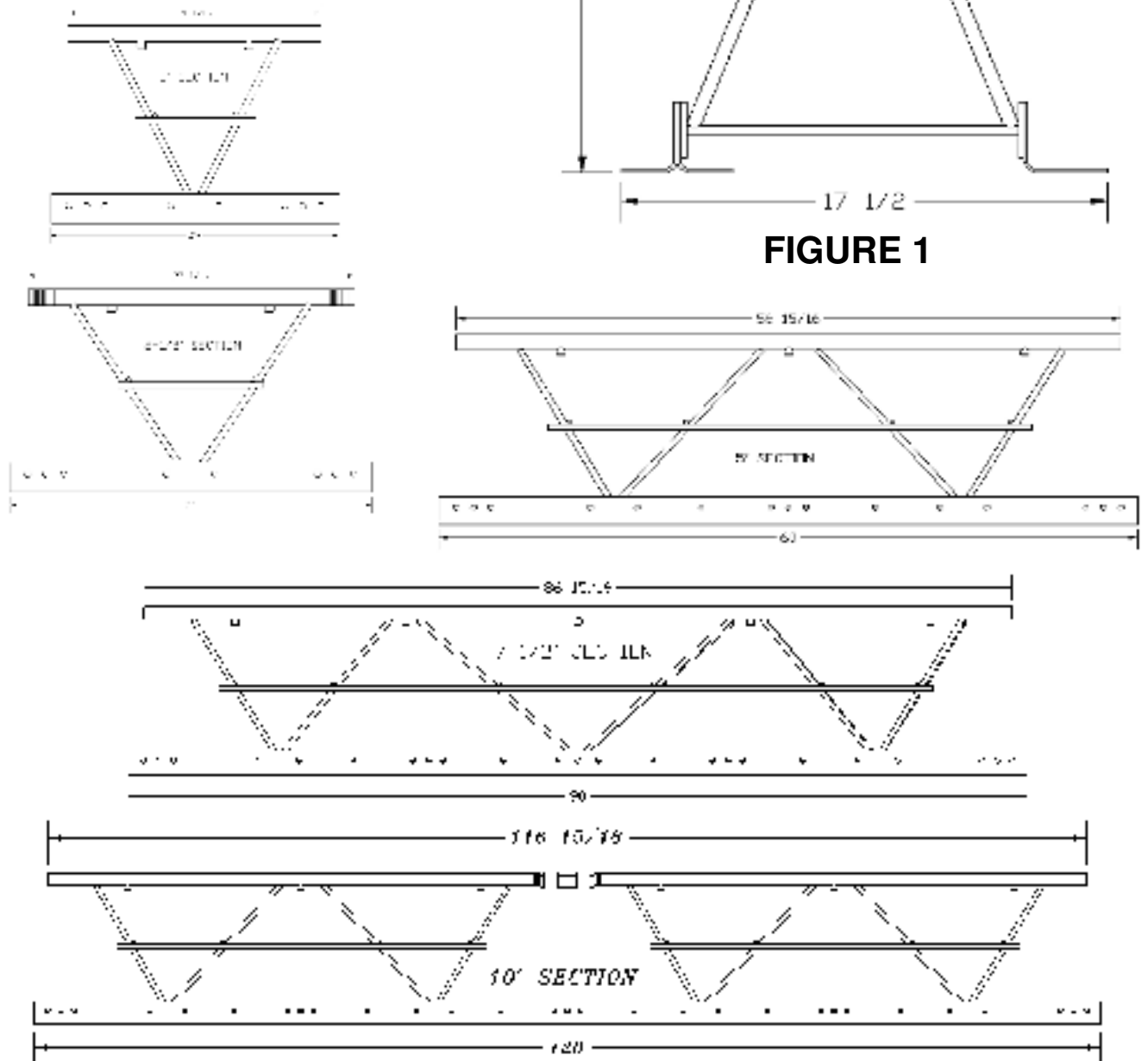


FIGURE 2

• TECHNICAL DATA •

OPERATIONS SECTION 1

SPECIFICATIONS ON AIR POWERED SCREED:

MODEL	TRUSS BLADES	10' lbs/kg	7 1/2' lbs/kg	5' lbs/kg	2 1/2' lbs/kg	2' lbs/kg	MAXIMUM WIDTHS
12SX	12 GA. GALV. STEEL	140/64	104/47	70/32	36/16	28/13	55'
12HD	10 GA. GALV. STEEL	186/84	138/63	93/42	47/21	37/17	65'
12SHD	10 GA. STAINLESS	186/84	138/63	93/42	47/21	37/17	75'

- Top Pipe - Coupling System - Fine Thread Adjustment 1 5/16-16tpi with Full Flow 1" Non-Restricting Air System with Dual Locking Jam Nuts.
- Vibration Proof Welds with Exclusive Vibration-Dampening System.
- Bolt-On Blades with Quick Connecting Splice Plates Front and Back at each Truss Section using 1/2-13 Nuts and Bolts Throughout.
- Balanced Design Truss Height to Overall Base Width Provides Equilateral Triangle Strength for Obtaining Precise Grade Control and Structure Integrity.
- Top Pipe Coupling System Provides for Crowned or Invert Slab Section without loosening Bottom Splice Blade Bolts. Special Crowns or Inverts are obtainable with Ball Joint Top Pipe Coupler or Crown Invert Bracket. Crowns greater than 1/8"/ft are considered special.
- NOTE: Select Screed Width to Allow Minimum Overhangs Past Forms; 6" Overhangs are Ideal,

MODEL	1. SINGLE VIBRATORS	2. DUAL VIBRATORS	VIBRATORS PER SECTION		
			7-1/2'	5'	2'
12SX	✓		3	2	1
12HD		✓	5	3	2
12SHD		✓	5	3	2

1. SINGLE VIBRATORS 30" centers alternating front to back.
2. DUAL VIBRATORS 30" centers front and back.

- VIBRATORS - Naval Bronze Piston Pneumatic Vibrator. Rebuildable, Rust-Resistant, One Moving Part, Fatigue Proof Air Fitting. Weight 2.42#. Piston is 1" Diameter with Unbalanced travel. Air Consumption 4.0 CFM at 60 PSI. Vibrations Per Minute, 9500 at 60 PSI.
- Exclusive 3 Bolt Attaching Bracket using High Strength Fine Thread Double Nut Vibrator Bolt with 2 each 1/2" Bracket Bolts.
- Vibratory Supply Air Supply - 200 PSI with Push Lock Fittings.
- Full Flow 1" Air Flow System - Includes Air Connecting Hose to Screed, Off/On Valve Also used as Volume Flow Valve, Air Gauge, In-line 1" Mist Lubricator Provides Adjustable Lubrication. Top Dome Sight Drip Glass, Fill Cap, 1 Quart Capacity Steel Body with Sight Glass for Lubrication Oil.
- Lubrication Mist Lube - NR88 or Allen Air Lube; Aft Dextron II is Allowable for Intermittent Use.

OPERATIONS SECTION 1

• BEFORE STARTING •

Before starting the air powered screed, there are a few items that need to be looked over.

- Make sure that bolts are secure and will not vibrate loose.
- Check jam nuts on top pipe to ensure that they are tight against the top pipe coupler.
- Check the hydraulic level in the tank for the hydraulic winches (if applicable).
- Check winch cables to make sure that they will not loosen during the screed run.
- Look over the forms to check for unevenness so that the screed will not hang up.

Ask yourselves these questions when preparing your screed for a job.

- What is the “exact” pour width?
- What is the slump?
- Is the slab flat, crowned, or inverted?
- What is the required surface tolerance?
- Choose screed type and size based on the above information.
- Are any accessories required?
- Do the winches work properly?

• OPERATING •

Operating your air powered screed correctly will greatly produce the outcome of the pour. Follow the instructions below to operate your screed correctly and you will be very pleased with your equipment.

THE JOB SITE:

FORMS

- Are they stable?
- Will they support the weight of the screed?
- Have the form pins been driven below the top of the forms?
- Can the screed pass from form to form without getting caught?

COLUMNS & WALLS

- Screed size is important.
- How will you go through the columns?
- Consider the use of HD winches & 6" extension handles.
- What do you do when your up against a wall?
a) wall bracket b) pipe rail c) form

CONCRETE

- Are there any mix characteristics or additives that effect the performance of the screed?
- Will the supply of concrete be steady or intermittent?
- Be aware of the importance of WEATHER!

THE CREW

- Two key people should be trained to operate the screed.
- The screed is a finishing machine, there is a technique to it's operation. The TRAVEL SPEED, the VIBRATORY FREQUENCY, and the FEEDING of the screed must all be controlled.
- Knowing how the winches operate before you start is essential.
- To what do you hook the cables, and when do you move them?
- Pay attention to safety with the cables.

• PERIODIC MAINTENANCE SCHEDULE •

OPERATIONS SECTION 1

The following information contains the maintenance and operations procedures that must be adhered to improve the life of your machine. A well maintained piece of machinery will provide you years of satisfaction.

- Use Loctite anti-seize MIL A 907D to lubricate the top pipe coupler threads before assembly.
- Oil winch bushings at 10 hr. operation intervals. Use light lubricating oil.
- CAUTION! Change worn or frayed cables - cables under tension may snap and cause severe injury. Use proper methods illustrated in this manual to properly attach cables. Always connect cables properly - wrap cable under last form pin then connect cable hook to the next form pin towards the screed.
- DO NOT hook cables to a stake driven into the ground, the stake can tilt and allow cable under tension to snap back and cause severe injury.
- CAUTION! For screeds over 75 ft. in length consult the factory.
- Check your screed for loose bolts and nuts approximately every 30 to 45 days.
- Make sure that all the vibrator nuts and bolts and also the nuts on top of the vibrators themselves are still tight, because these can and occasionally do loosen through vibration.
- Always check the air hoses to make sure that none of them have been broken or severed somehow. Usually this is done by a shovel or come-along during the pour.
- It is almost impossible to get dirt or grit into the vibrators, but if this should happen, wash the vibrator out promptly with a cleaner. To clean the vibrator, remove it from the machine and replace it with a spare one. Remove the top nut and also the piston. Clean the vibrator with a vibrator cleaner and wipe it dry with a clean cloth. Oil the piston, place it back into the barrel and tighten the top nut. Tighten the top nut until you see the nut dig into the brass on the barrel section. Now your vibrator is ready for re-use.
- To provide proper air supply should be dry and contamination free. Clean dry air will provide trouble free vibrator operation.
- If the air compressor is fitted with an air dryer, the moisture content of the air supply will be reduced. The reduction should be less than 10%. This will enable Allen's A88/NR oil to absorb the remainder of the moisture in the air stream. If the air stream is not dry, the moisture will combine with the vibrator lubricant to form a sticky sludge. This results in vibrators slowing down or in cold weather, not working.

OPERATIONS SECTION 1

• LIFTING PROCEDURES •

The following procedures describe proper lifting techniques for screed. There is no OSHA standard weight limit for manual lifting. Therefore, rather than stating a regulated limit, they ask that employers or contractors do the following:

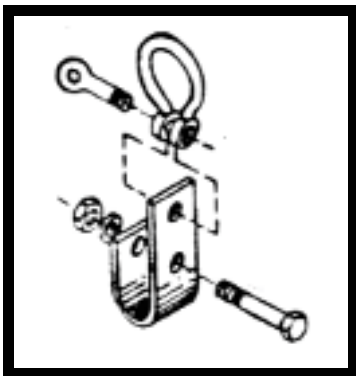
- A) Identify each hazard to which a person at the work place (jobsite) is likely to be exposed to
- B) Assess the risk of injury or harm to a person resulting from each hazard
- C) Consider the means by which the risk may be reduced.

NOTE: Never lift more than what you personally feel that you can handle.

The lifting handles at each end of the screed are not intended to be used as the only source to lift the screed. It is quite obvious that two large men will not be able to lift 70 feet of screed. The following list of maximum screed lengths is very important so that the length of your screed will not be too long.

SX SCREED - MAXIMUM 55 FEET
HD SCREED - MAXIMUM 65 FEET
SHD SCREED - MAXIMUM 75 FEET

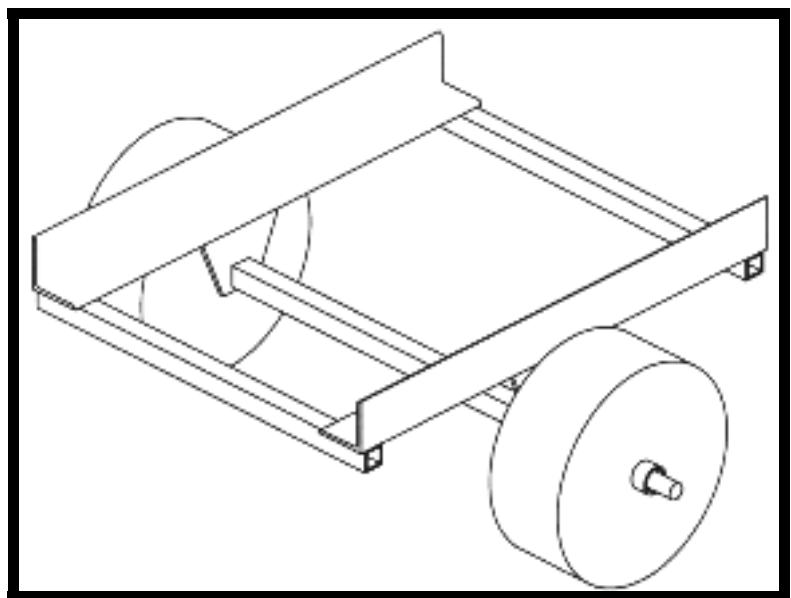
For proper lifting of an average screed (30 ft.), the screed lifting hook is an ideal item to use. This instrument should be placed at equal distances from each end. A special lifting bridle is then used by a forklift, crane, front-end loader, etc. to raise and transport the screed. Also available from Allen Engineering is the screed cart. This item is used to move the screed around on the job site only.



LIFTING HOOK PART #
532000

STANDARD SCREED CART
MAXIMUM 500 lbs. - 543000

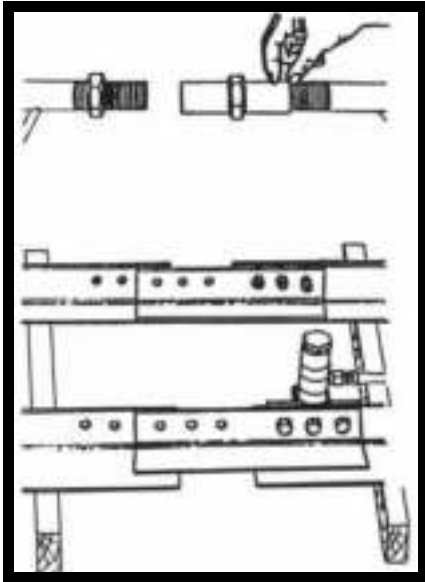
HEAVY DUTY SCREED CART
MAXIMUM 1,000 lbs. - 543001



• SECTION ASSEMBLY •

OPERATIONS SECTION 1

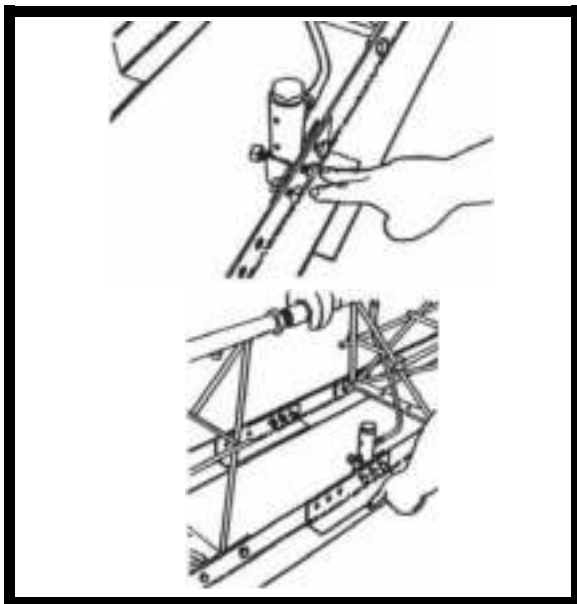
The following figures describe the proper instructions for correctly assembling air powered screed. Make sure that you follow the instructions in order. If the assembling of your screed is not done in this order, there could be some problems in trying to maintain floor flatness because your screed is not level. Levelness of your screed is critical!



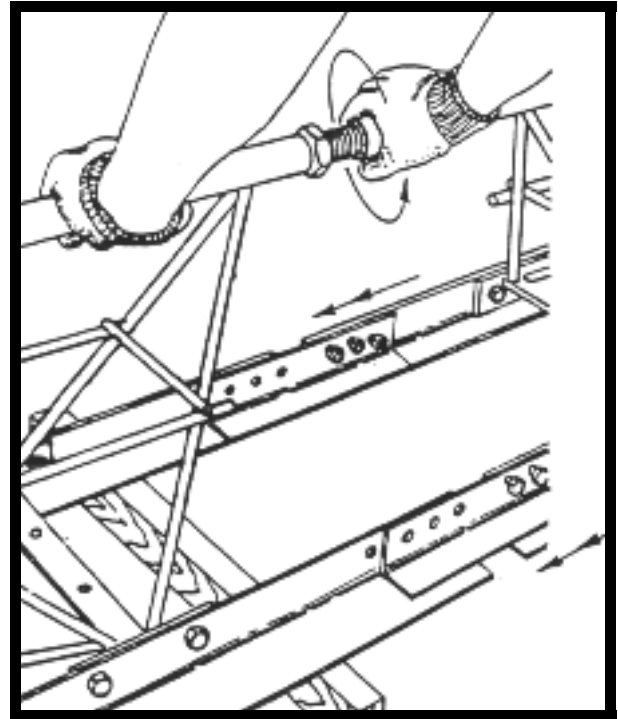
STEP 1: Screw jam nuts onto top pipe. Start the top pipe coupler onto the top pipe of the mating truss section. Only thread the coupler on about three turns.

NOTE: The right and left hand jam nuts will already be installed on the screed section.

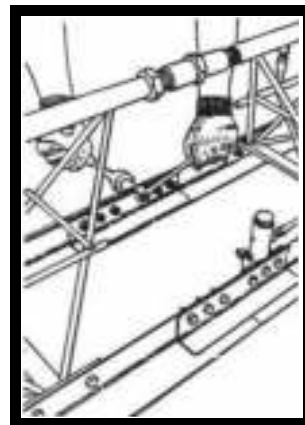
TIGHTEN JAM NUTS AFTER SCREED IS LEVEL



STEP 3: Vibrator mounting bolts should be loose so that the splice plate can move in the clearance holes. With a 15" adjustable wrench, turn top pipe coupler until screed and bullfloat blades contact. Then back coupler off slightly so the blades touch without tension.



STEP 2: Slide screed sections together until top pipe threads on screed marked "R" line up with threads in coupler on the screed. Start coupler on adjoining threads by hand to prevent cross threading.



STEP 4: Secure the sections together by assembling the remaining 6 bolts and nuts, tighten them firmly. Continue joining sections together in this manner until you have all the sections assembled. Now you are ready to stringline your screed. See PAGE S1-15.

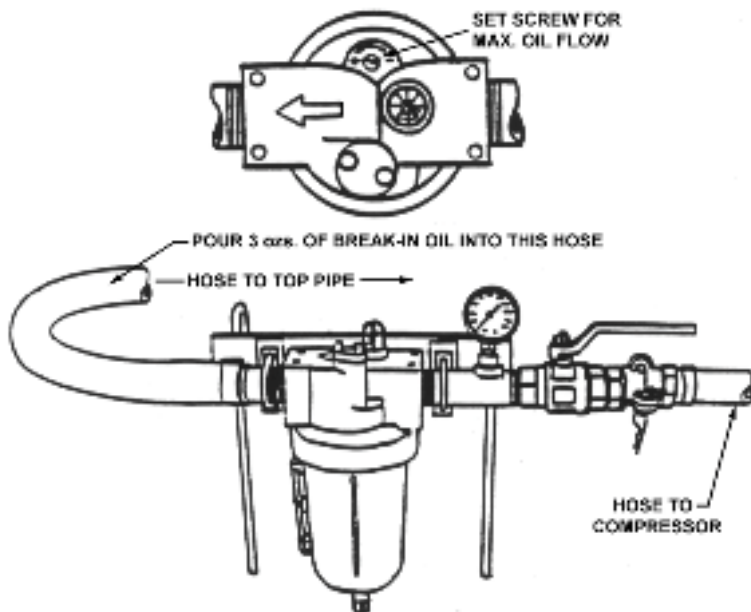
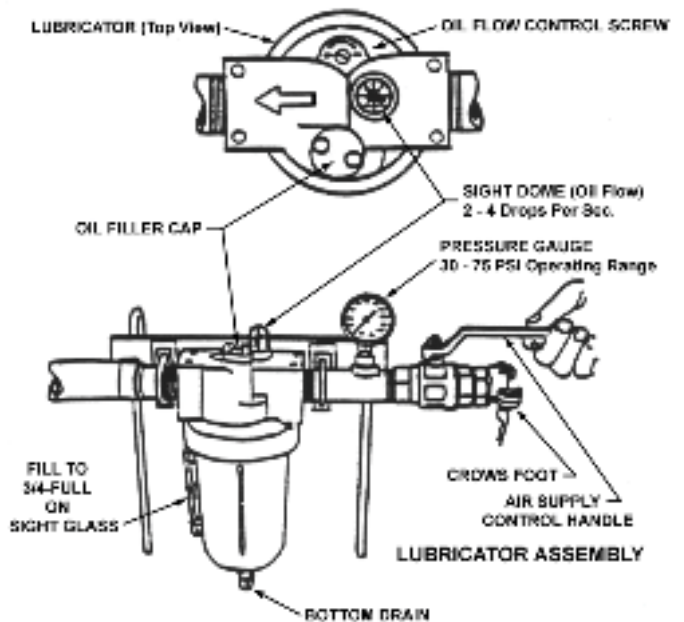
OPERATIONS SECTION 1

• LUBRICATOR OPERATION •

The following illustrations explain the location and operation of the air lubrication system on air powered screeds. Follow instructions carefully to prevent mistakes that could cause problems in the air flow which could then destroy the vibrators.

Oil must be added to the lubricator prior to operation. Remove the oil filler cap, fill the lubricator 3/4 full with:
Texaco Rando C or equivalent
ATF Dexron II
Special A 88 INR Oil

Replace filler cap and tighten securely. Connect air supply hose from compressor to crows foot, attached to lubricator. For safety, always install hair pins when completing crows foot connections. Turn air supply control handle to open position. Start compressor. After the machine vibrators are running, turn the air supply down slowly to operating pressure (30 - 75 PSI), check sight dome for proper oil flow (2 - 4 drops per second), turn screw counter-clockwise (+) for more oil, clockwise (-) for less oil. Do not turn screw too far in or out, this will shut off the oil completely. When oil flow is properly set, you are ready for the pour.



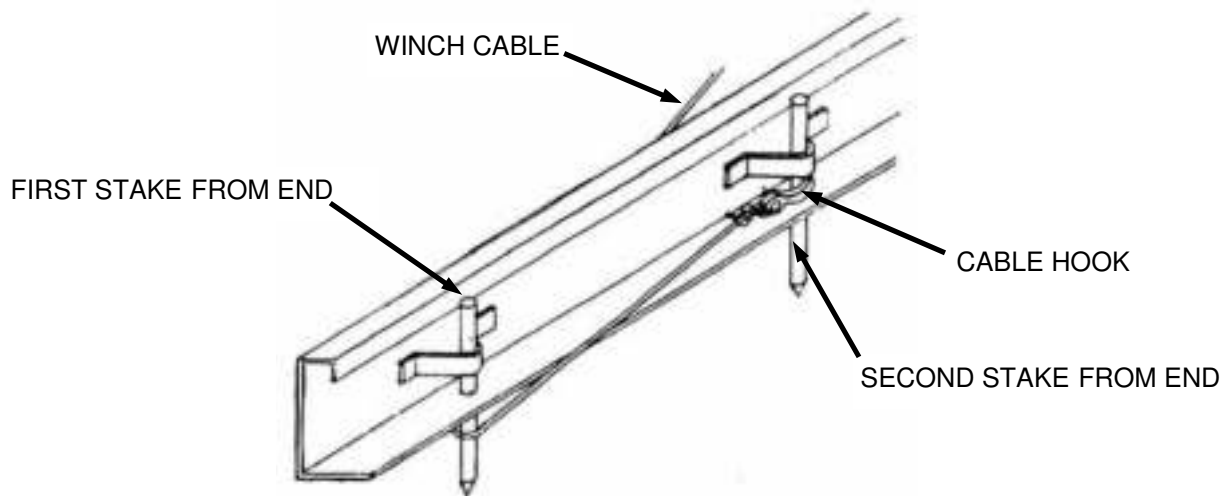
TO START UP NEW MACHINE:

- Make sure tape on all vibrators exhaust ports is removed.
- Use special A88/NR Break-in Oil.
- Pour about 3 ounces of break-in oil into hose from lubricator to top pipe crows foot connection.
- Run screed with bursts of air, at intervals, until all vibrators are lubricating. You will see an air oil mist coming from the vibrators. Hold your hand at the exhaust ports. This mist should feel oily.
- Run vibrators 2 - 3 minutes at a time, up and down in pressure, for a total of 15 minutes. This will seat the piston to the barrel inside the vibrator.

• ATTACHING WINCHES TO FORM STAKES •

OPERATIONS SECTION 1

The figure below illustrates the proper way to attach the winch cables to the form stakes. This is the only way that the cables should be attached. If the cables are not attached properly, the cables could snap loose causing severe injury to finishing personnel surrounding the screed.

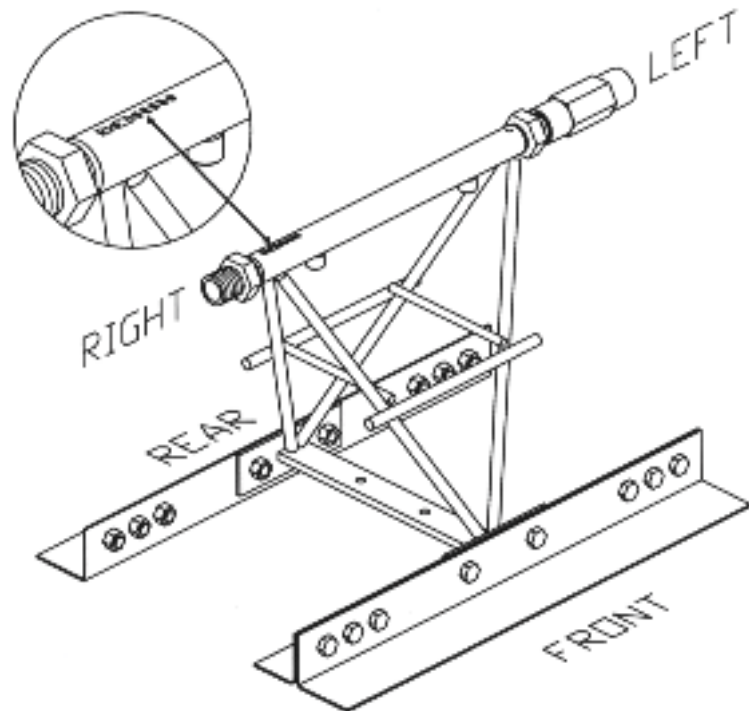


• DETERMINING LEFT AND RIGHT OF

The following illustration shows all the key information on how to determine the left and right and the front and rear of a screed section.

Note the circle with the serial number.

This is probably the easiest way to determine the left and right sides of the screed assembly. The right side has the model number and the a 5-digit serial number. The left hand side is only stamped with an "L". Also the front of the screed is determined by the two screed blades mounted back-to-back. The rear of



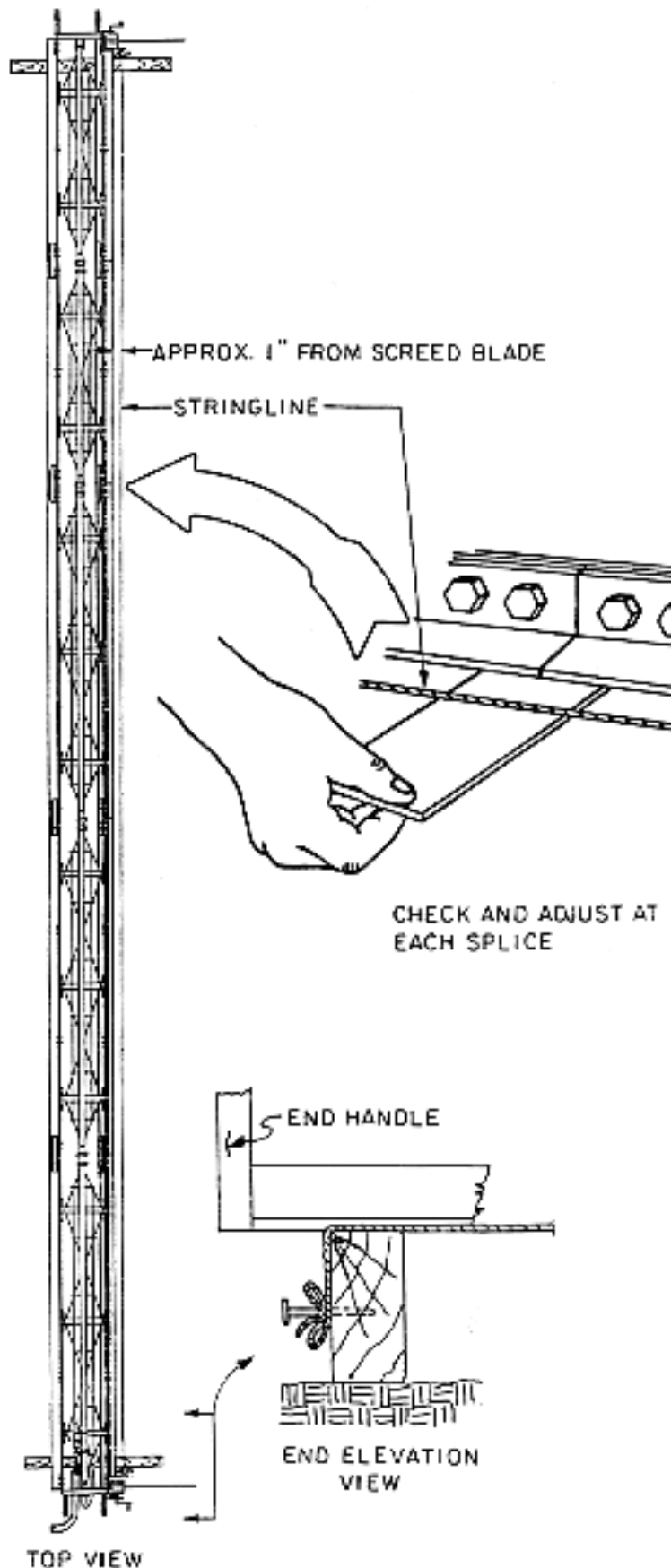
OPERATIONS SECTION 1

• STRING LINING •

To string line your screed, there are a few important steps that need to be followed.

- Place screed ends on a 2 x 6 or other wooden type support.
- At approximately 1" out from the leading edge of the screed blade, drive a nail into the wooden support. NOTE: Nail should be on the outside of the wooden support.
- Stretch a line as tight as possible from nail to nail. Make sure that the nail is contacting each support at the point of blade contact.
- NOTE: The supports do not have to be on the same level.
- Use a short, flat piece of metal or wood as a gauge block to compare the string to the bottom surface of the screed blade and bullfloat blade.
- The blades should be equal to each other at each splice. If they are not even, loosen jam nuts and tighten top pipe coupler as described on page S1-12.

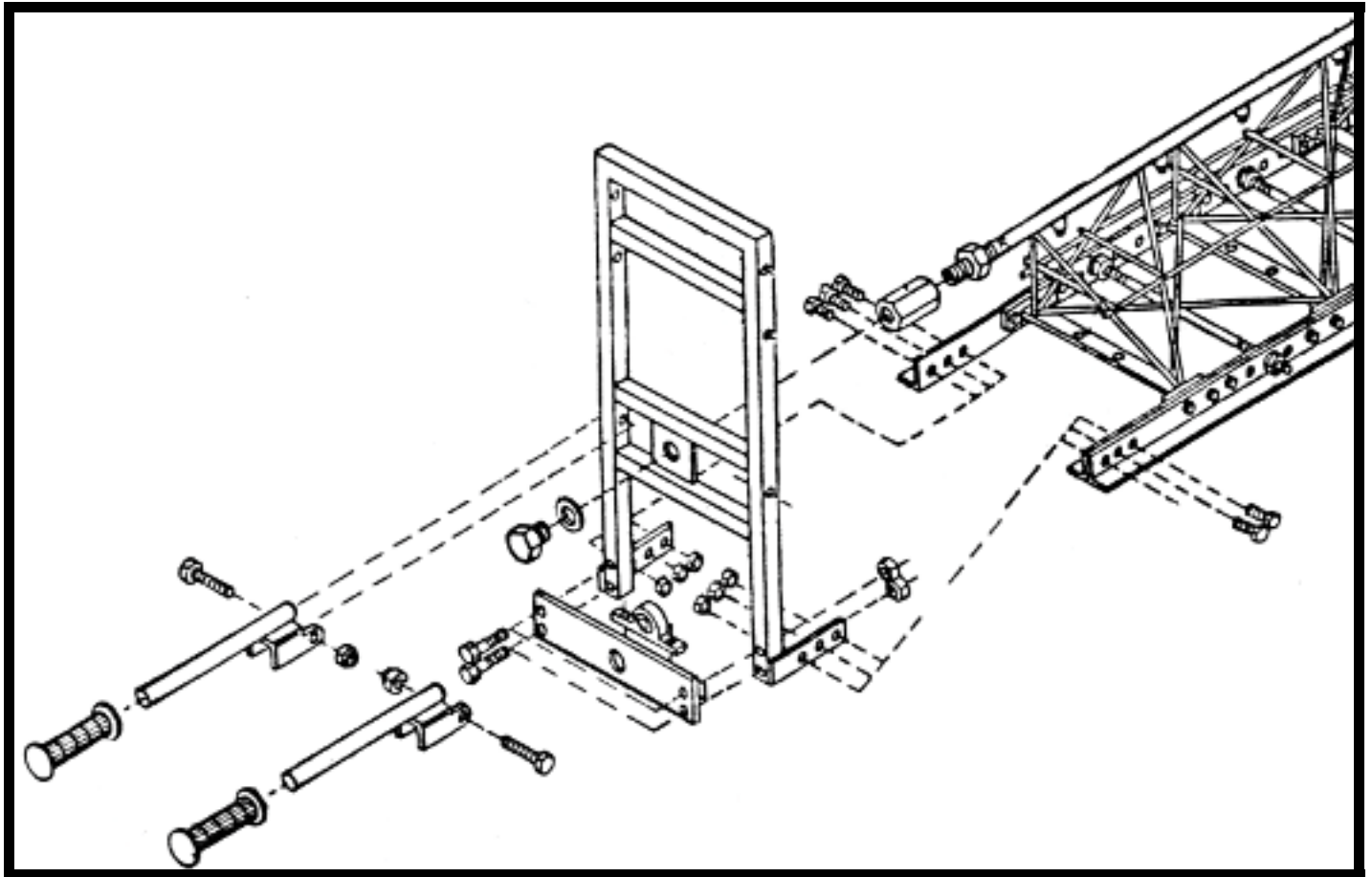
NOTE: Always string line your



• END HANDLE ASSEMBLY •

OPERATIONS SECTION 1

The following figure shows the proper way to mount a standard end handle to the screed section. Do not try to modify this mounting procedure, this is the only way to mount the end handles where they will work properly.



Follow the steps below to properly mount the end handles to your screed.

- Mount the bearing onto the bearing support bracket.
- Mount the handle grips onto the lifting handles.
- Mount the lifting handles onto the end handle using two 3/8 x 2 bolts and 3/8 nylon lock nuts.
- Mount the bearing support bracket to the end handle using four 1/4 x 1 1/2 bolts and 1/4 stover nuts.
- Mount the end handle to the screed using three 1/2 x 3/4 bolts, three 1/2 x 1 bolts and six 1/2 hex nuts. Screw the appropriate adaptor for the end you are working on onto the top pipe. Next, using

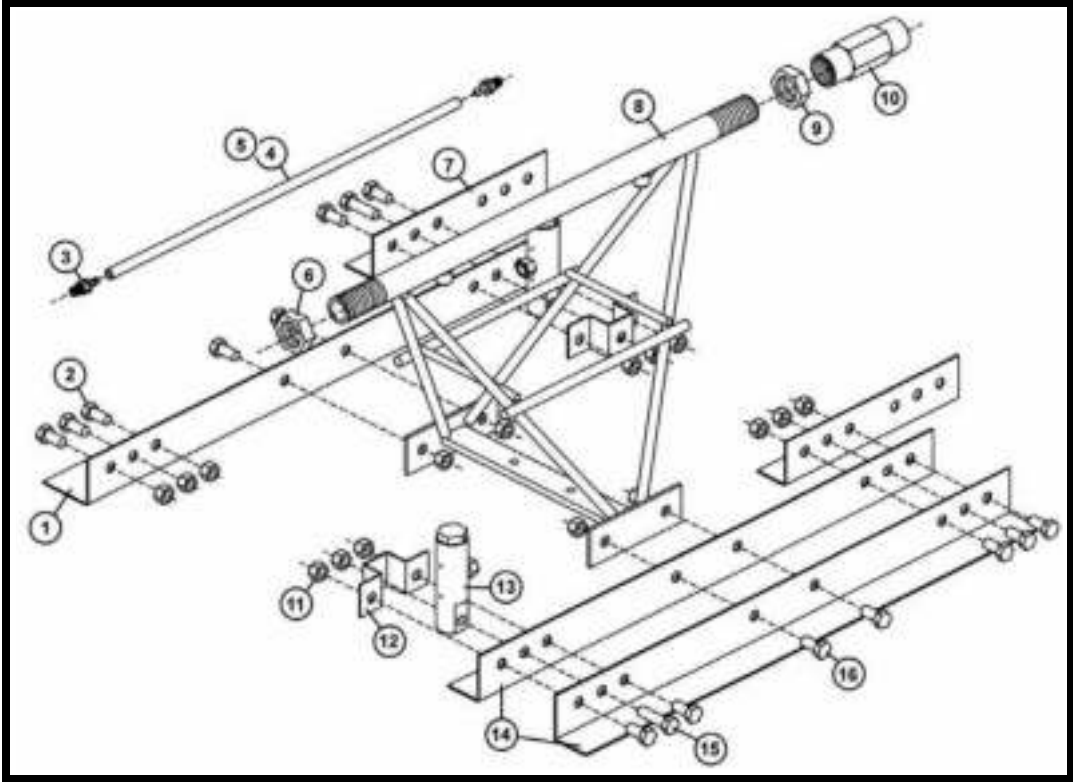
PARTS
• TABLE OF CONTENTS •

PARTS
SECTION 2

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• ASSEMBLY 2' SECTION •

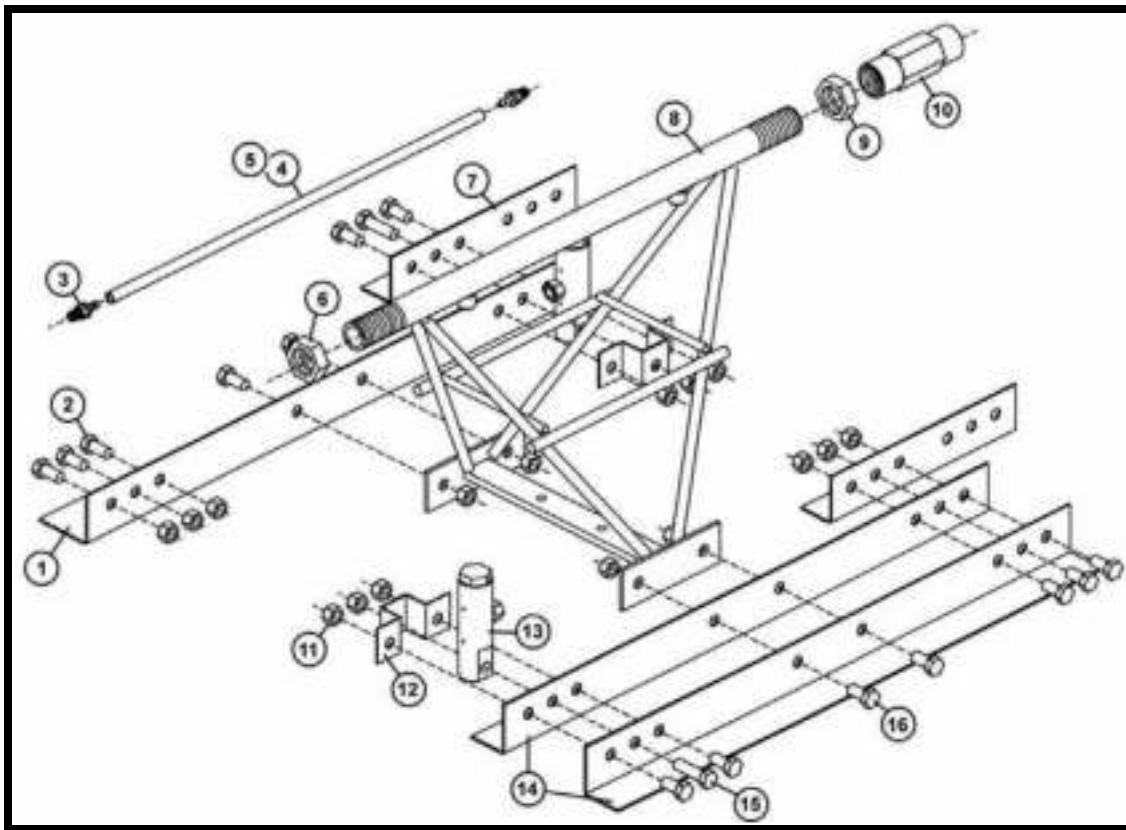
**PARTS
SECTION 2**



PART #	DESCRIPTION	QTY.
1. 153000	2' BULLFLOAT BLADE 12 GA.	1
010173	2' BULLFLOAT BLADE 12HD	1
022425	2' BULLFLOAT BLADE 10 GA. SS	1
2. 010066	BOLT, 1/2-13 x 3/4	8
3. 010193	FITTING, MALE PUSHLOK 1/4 x 1/4-18	2
4. 013391	HOSE, 1/4" PUSHLOK	2.5
5. 132000	HD AIR HOSE ASSEMBLY	2
6. 108000	NUT, JAM R	2
7. 106000	PLATE, SPLICE 12 GA.	2
106001	PLATE, SPLICE 10 GA.	2
022430	PLATE, SPLICE 10 GA. SS	2
8. 016564	TRUSS, 2' HED WELDMENT	1
9. 108001	NUT, JAM LH	1
10. 107000	TOP PIPE COUPLER	1
11. 010106	NUT, HEX 1/2-13	15
12. 020053	BRACKET, BRASS VIBRATOR MOUNT	2
13. 111000	BRASS VIBRATOR ASSEMBLY	2
14. 152000	2' SCREED BLADE 12 GA.	2
010172	2' SCREED BLADE 10 GA.	2
022422	2' SCREED BLADE 10 GA. SS	2
15. 011489	BOLT, 1/2-20 x 3" GRADE 8 (HD & SHD ONLY)	2
025413	BOLT, 1/2-20 x 2-3/4" GRADE 8 (SX ONLY)	2
16. 010067	BOLT, 1/2-13 x 1"	7

PARTS SECTION 2

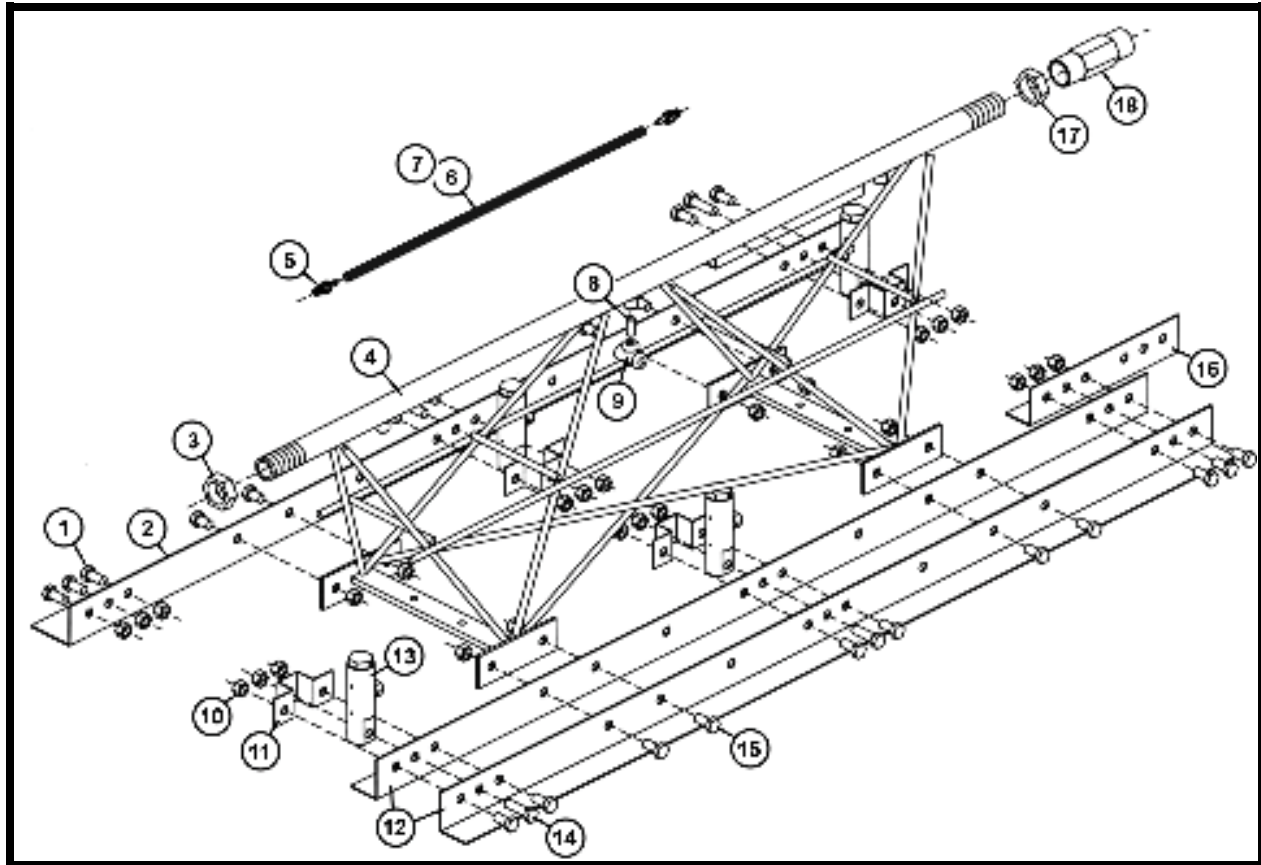
• ASSEMBLY 2-1/2' SECTION •



PART #	DESCRIPTION	QTY.
1. 028744	2-1/2' BULLFLOAT BLADE 12 GA.	1
028702	2-1/2' BULLFLOAT BLADE 12HD	1
028746	2-1/2' BULLFLOAT BLADE 10 GA. SS	1
2. 010066	BOLT, 1/2-13 x 3/4	8
3. 010193	FITTING, MALE PUSHLOK 1/4 x 1/4-18	2
4. 013391	HOSE, 1/4" PUSHLOK	2.5
5. 132000	HD AIR HOSE ASSEMBLY	2
6. 108000	NUT, JAM R	2
7. 106000	PLATE, SPLICE 12 GA.	2
8. 028700	TRUSS, 2-1/2' HED WELDMENT	1
9. 108001	NUT, JAM LH	1
10. 107000	TOP PIPE COUPLER	1
11. 010106	NUT, HEX 1/2-13	15
12. 020053	BRACKET, BRASS VIBRATOR MOUNT	2
13. 111000	BRASS VIBRATOR ASSEMBLY	2
14. 028743	2-1/2' SCREED BLADE 12 GA.	2
028701	2-1/2' SCREED BLADE 10 GA.	2
028745	2-1/2' SCREED BLADE 10 GA. SS	2
15. 011489	BOLT, 1/2-20 x 3" GRADE 8 (HD & SHD ONLY)	2
025413	BOLT, 1/2-20 x 2-3/4" GRADE 8 (SX ONLY)	2
16. 010067	BOLT, 1/2-13 x 1"	7

• ASSEMBLY 5' SECTION •

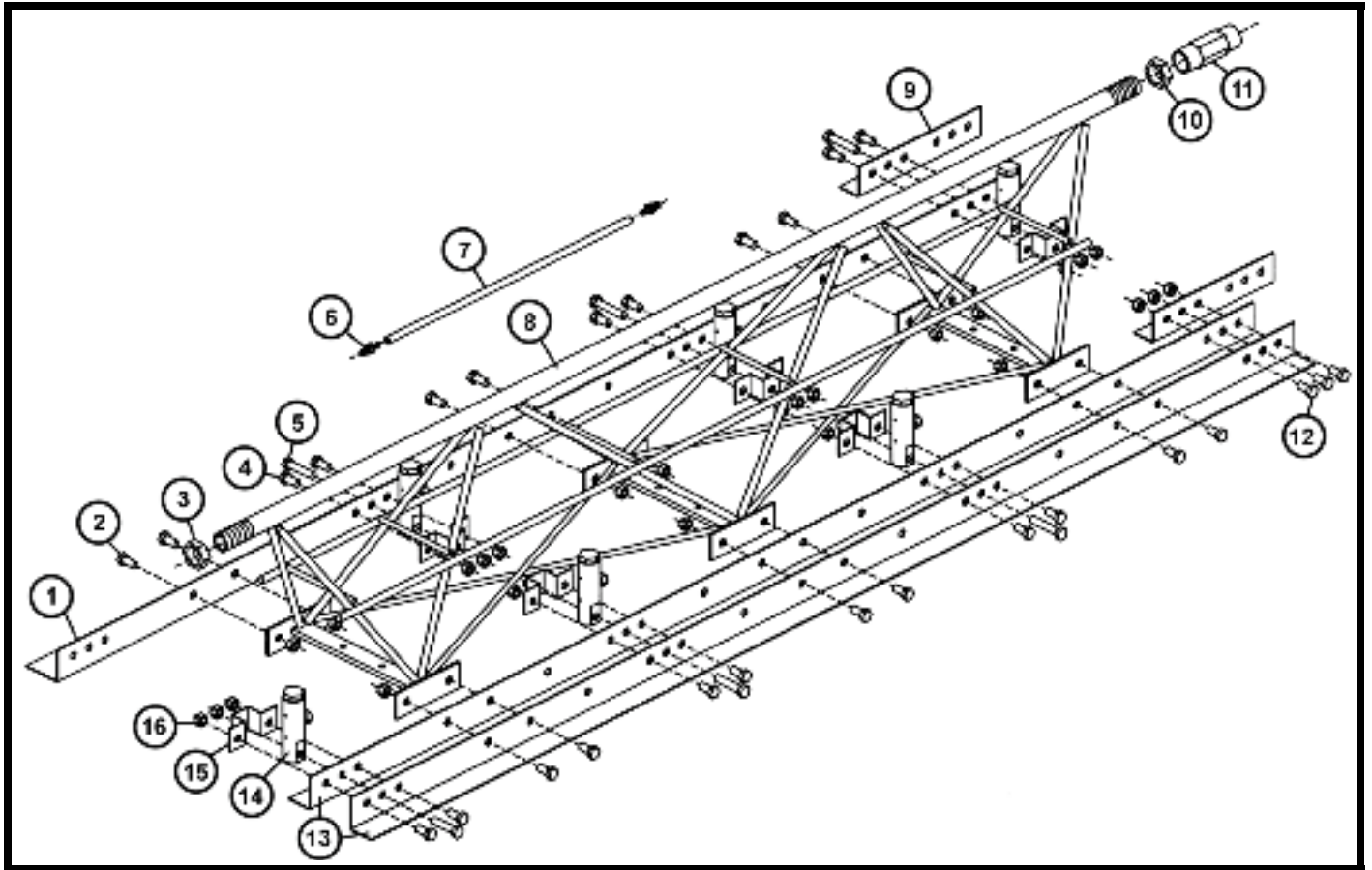
**PARTS
SECTION 2**



PART #	DESCRIPTION	QTY.
1. 010066	BOLT, 1/2-13 x 3/4	17
2. 105000	5' BULLFLOAT BLADE 12 GA.	1
105001	5' BULLFLOAT BLADE 10 GA.	1
022424	5' BULLFLOAT BLADE 10 GA. SS	1
3. 108000	NUT, JAM RH	1
4. 016565	TRUSS, 5' WELDMENT	1
5. 010193	FITTING, MALE PUSHLOK 1/4 x 1/4-18	2
6. 013391	HOSE, PUSHLOK 1/4"	2.5
7. 132000	HD AIR HOSE ASSEMBLY	4
8. 012393	NIPPLE, 1/4" NPT BI CLOSE	1
9. 010318	TEE, 1/4" NPT GALVANIZED	1
10. 010106	NUT, 1/2-13	22
11. 020053	BRACKET, BRASS VIBRATOR MOUNT	4
12. 103000	5' SCREED BLADE 12 GA.	2
103001	5' SCREED BLADE 10 GA.	2
022421	5' SCREED BLADE 10 GA. SS	2
13. 111000	BRASS VIBRATOR ASSEMBLY	4
14. 025413	BOLT, 1/2-20 x 2-3/4" GRADE 8 (SX ONLY)	2
011489	BOLT, 1/2-20 x 3" GRADE 8 (HD & SHD)	2
15. 010067	BOLT, 1/2-13 x 1"	9
16. 106000	PLATE, SPLICE 12 GA.	2
106001	PLATE, SPLICE 10 GA.	2
022430	PLATE, SPLICE 10 GA. SS	2
17. 108001	NUT, JAM LH	1
18. 10700	TOP PIPE COUPLER	1

PARTS SECTION 2

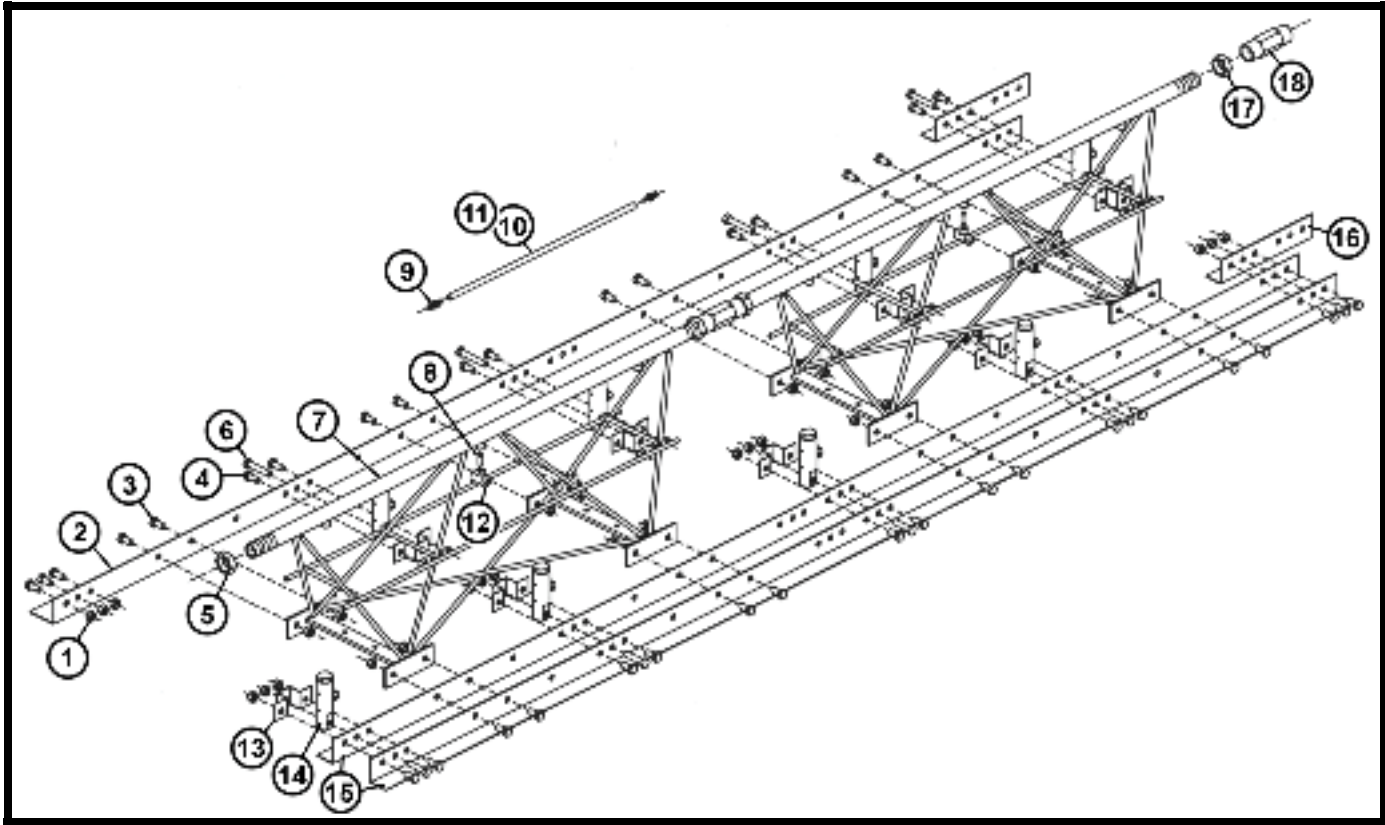
• ASSEMBLY 7-1/2' SECTION •



PART #	DESCRIPTION	QTY.
1.	104000-----7-1/2' BULLFLOAT BLADE 12 GA.	1
	104001-----7-1/2' BULLFLOAT BLADE 10 GA.	1
	022423-----7-1/2' BULLFLOAT BLADE 10 GA. SS	1
2.	010067-----BOLT, 1/2-13 x 1	19
3.	108000-----NUT, JAM RH	1
4.	010068-----BOLT, 1/2-13 x 1-1/4	7
5.	011488-----BOLT, 1/2-20 x 2-1/2 GRADE 8	2
6.	010193-----FITTING, PUSHLOK MALE 1/4 x 1/4-18	2
7.	013391-----HOSE, PUSHLOK 1/4"	2.5
	132000-----HD AIR HOSE ASSEMBLY	6
8.	016566-----TRUSS, 7-1/2' HED WELDMENT	1
9.	106000-----PLATE, SPLICE 12 GA.	2
	106001-----PLATE, SPLICE 10 GA.	2
	022430-----PLATE, SPLICE 10 GA. SS	2
10.	108001-----NUT, JAM LH	1
11.	107000-----TOP PIPE COUPLER	1
12.	010068-----BOLT, 1/2-13 x 1-1/4	6
13.	102000-----7-1/2' SCREED BLADE 12 GA.	2
	102001-----7-1/2' SCREED BLADE 10 GA.	2
	022420-----7-1/2' SCREED BLADE 10 GA. SS	2
14.	111000-----VIBRATOR BRASS ASSEMBLY	6
15.	020053-----BRACKET, BRASS VIBRATOR MOUNT	6
16.	010106-----NUT, 1/2-13	33
	010107-----NUT, 1/2-20	6

• ASSEMBLY 10' SECTION •

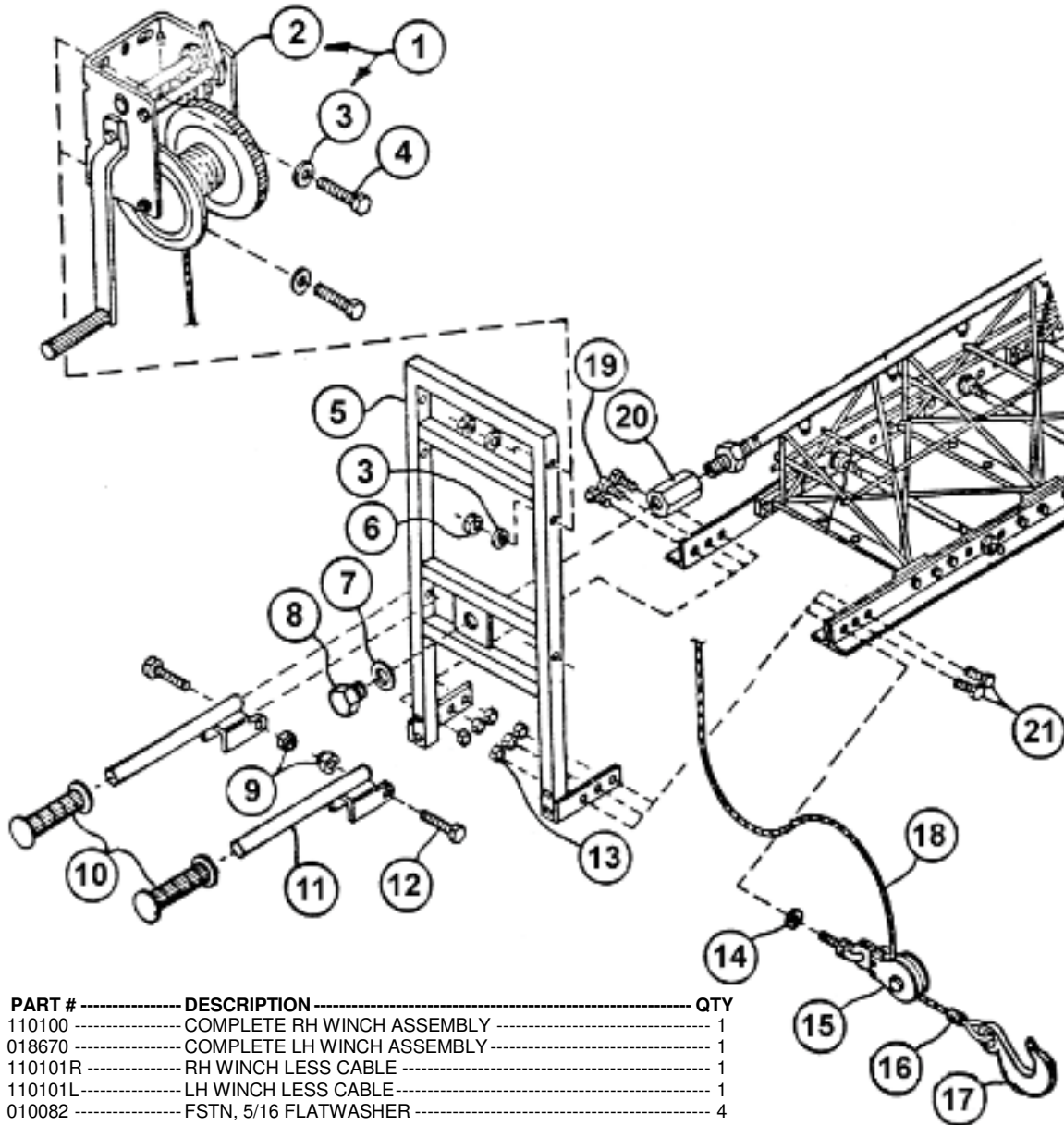
**PARTS
SECTION 2**



PART #	DESCRIPTION	QTY.
1. 010106	NUT, 1/2-13 HEX	44
010107	NUT, 1/2-20 HEX	8
2. 032139	10' BULLFLOAT BLADE 12 GA.	1
032141	10' BULLFLOAT BLADE 10 GA.	1
025994	10' BULLFLOAT BLADE 10 GA. SS	1
3. 010068	BOLT, 1/2-13 x 1-1/4	14
4. 010067	BOLT, 1/2-13 x 1	30
5. 108000	NUT, JAM RH	1
6. 011488	BOLT, 1/2-20 x 2-1/2	2
7. 016565	TRUSS 5' WELDMENT	2
8. 012393	NIPPLE, 1/4" NPT BI CLOSE	2
9. 010193	FITTING, PUSHLOK MALE 1/4 x 1/4-18	2
10. 013391	HOSE, 1/4 PUSHLOK	2.5'
11. 132000	HD AIR HOSE ASSEMBLY	8
12. 010318	TEE, 1/4" NPT GALVANIZED	2
13. 020053	BRACKET, BRASS VIBRATOR MOUNT	8
14. 111000	VIBRATOR BRASS ASSEMBLY	8
15. 032140	10' SCREED BLADE 12 GA.	2
032138	10' SCREED BLADE 10 GA.	2
025993	10' SCREED BLADE 10 GA. SS	2
16. 106000	PLATE, SPLICE 12 GA.	2
106001	PLATE, SPLICE 10 GA.	2
022430	PLATE, SPLICE 10 GA. SS	2
17. 108001	NUT, JAM LH	1
18. 107000	TOP PIPE COUPLER	1

PARTS SECTION 2

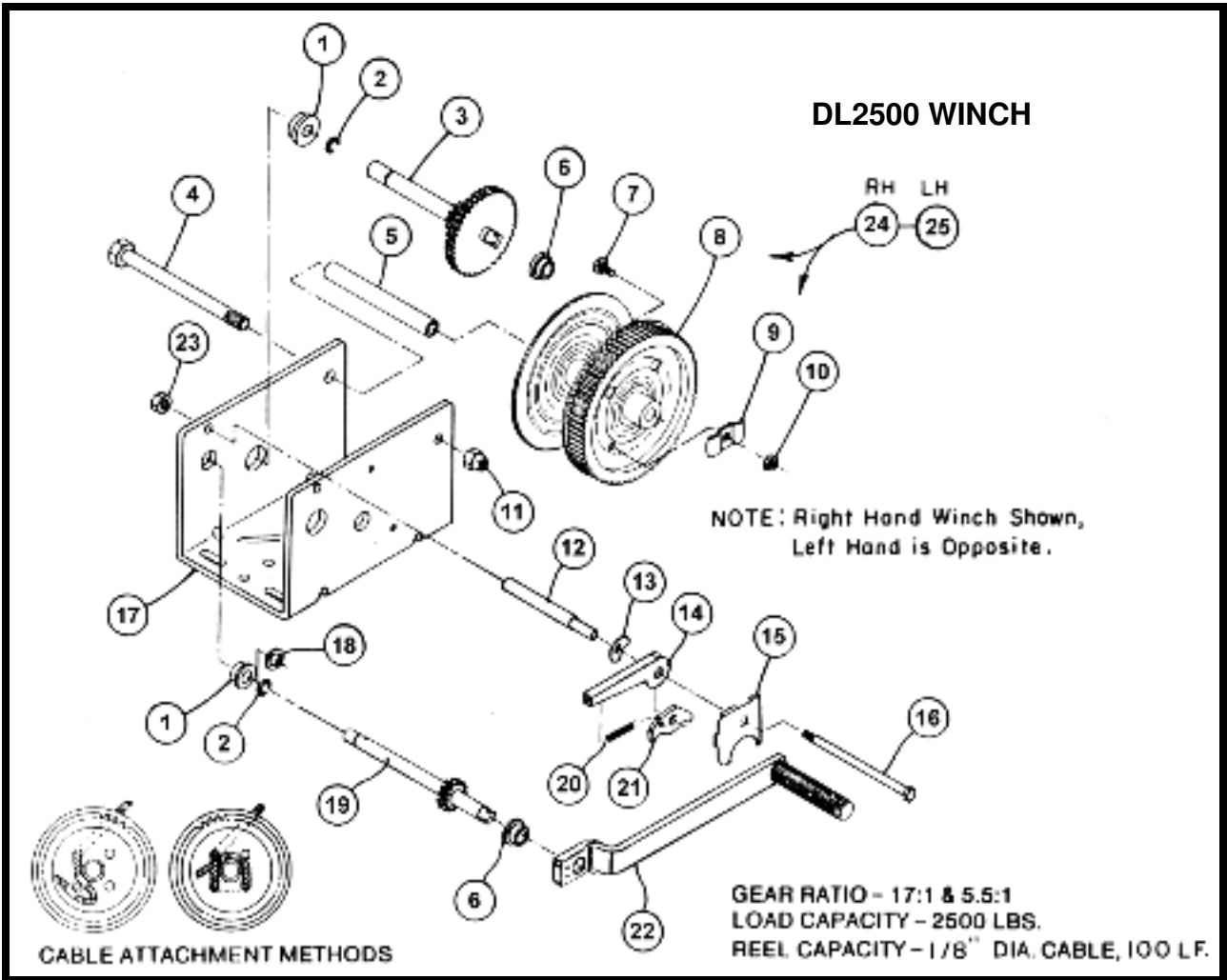
• END HANDLE ASSEMBLY •



PART #	DESCRIPTION	QTY
1.	110100 ----- COMPLETE RH WINCH ASSEMBLY -----	1
	018670 ----- COMPLETE LH WINCH ASSEMBLY -----	1
2.	110101R ----- RH WINCH LESS CABLE -----	1
	110101L ----- LH WINCH LESS CABLE -----	1
3.	010082 ----- FSTN, 5/16 FLATWASHER -----	4
4.	010023 ----- FSTN, BOLT 5/16-18 x 1 3/4 -----	2
5.	109000 ----- END HANDLE -----	1
6.	010100 ----- FSTN, NUT 5/16 -----	2
7.	010088 ----- FSTN, 1" FLATWASHER -----	1
8.	113000 ----- FSTN, NUT F/ END HANDLE -----	1
9.	010464 ----- FSTN, NUT NYLON LOCK 3/8-16 -----	2
10.	015767 ----- HANDLE GRIP -----	2
11.	017066 ----- LIFTING HANDLE -----	2
12.	010040 ----- FSTN, BOLT 3/8-16 x 2 -----	2
13.	010106 ----- FSTN, HEX 1/2-13 -----	6
14.	010085 ----- FSTN, 1/2 LOCKWASHER -----	1
15.	110005 ----- PULLEY BLOCK W/ EYEBOLT -----	1
16.	012391 ----- CABLE CLAMP -----	1
17.	110008 ----- SLIP HOOK -----	1
18.	110103 ----- CABLE F/ WINCH (1/8" AIRCRAFT) -----	100 ft.
19.	010067 ----- FSTN, BOLT 1/2-3 x 1 -----	5
20.	010300 ----- ADAPTOR, RH AIR END -----	1
	010269 ----- ADAPTOR, LH AIR END -----	1
21.	010067 ----- FSTN, BOLT 1/2-13 x 1 -----	1

• WINCH ASSEMBLY •

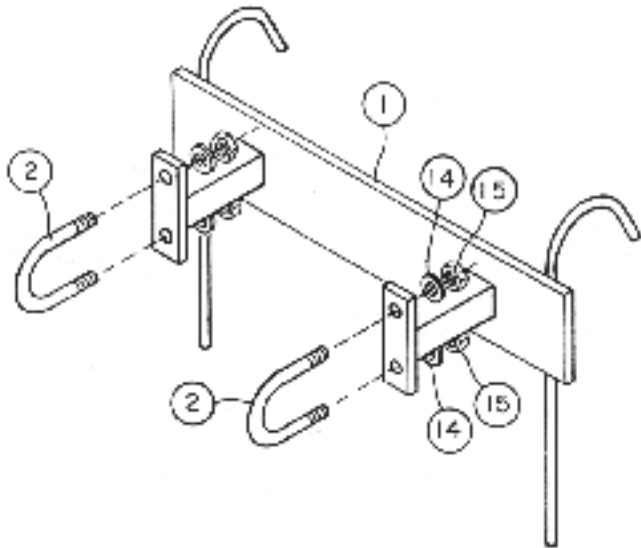
PARTS SECTION 2



PART #	DESCRIPTION	QTY
1. 250002	BUSHING	2
2. 250003	E-RING	2
3. 250022	INTERMEDIATE DRIVE SHAFT	1
4. 250014	SHAFT REEL	1
5. 012826	SPACER	1
6. 250024	BUSHING	2
7. 120013	FSTN, BOLT CARRAGE 1/4 x 3/4	1
8. 250017	WINCH REEL 2 1/2 DIA	1
9. 120012	CABLE CLAMP	1
10. 120011	FSTN, NUT HEX 1/4	1
11. 120015	FSTN, STOVER LOCK 3/8	1
12. 250009	SLEEVE RATCHET	1
13. 120017	COMPRESSION SPRING	1
14. 120018	LEVER RATCHET	1
15. 020471	PLATE, LATCH LH	1
250026	PLATE, LATCH RH	1
16. 250007	BOLT, RATCHET	1
17. 250001	BASE WINCH, 2500	1
18. 250025	SPACER	1
19. 250006	DRIVE SHAFT	1
20. 120021	SPRING EXTENSION	1
21. 120020	PAWL RATCHET	1
22. 110102	HANDLE	1
23. 120016	FSTN, NUT STOVER LOCK 1/4	1
24. 110101R	HD WINCH RH (WINCH ONLY)	1
25. 110101L	HD WINCH LH (WINCH ONLY)	1

• AIR CONTROL SYSTEM ASSEMBLY •

PARTS SECTION 2



LUBRICATOR ASSEMBLY - 1" PARKER
PART#: 116005

FILL CAP - SIGHT DOME
KIT PART # 116012

FILL CAP
SEAL
OUTER SIGHT DOME
INNER SIGHT DOME
SIGHT DOME BASKET

REPLACEMENT KITS

116012 - FILL CAP - SIGHT DOME
116015 - SIGHT GLASS
116016 - BOTTOM DRAIN

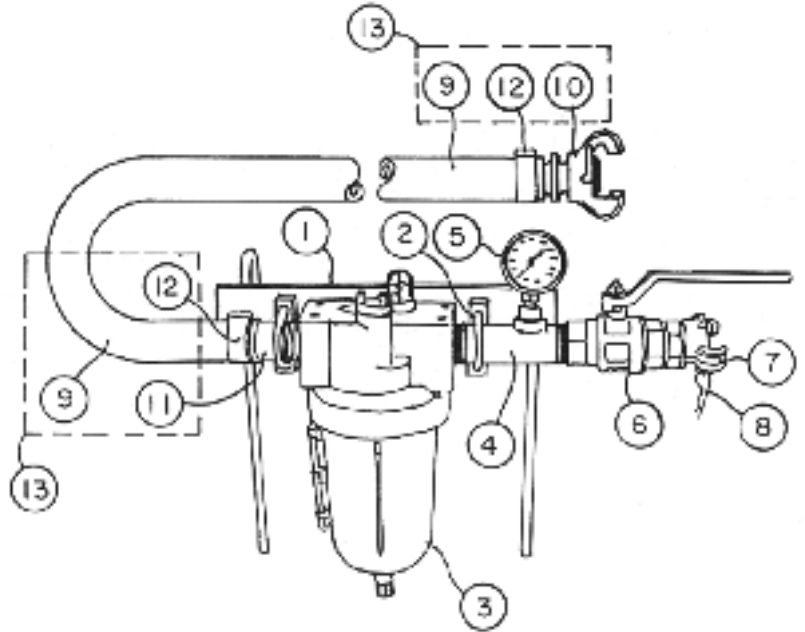
SIGHT GLASS KIT
PART# 116015

LARGE 1/2" RING
MOUNTING SCREW
SMALL 1/2" RING
SIGHT GLASS

PART # 012955
1/2" RING F11" LUBRICATOR
SEAL

PART # 116014
BOWL, ICE CREAM
MANUAL DRAIN
INCLUDE NUTS AND WASHERS
KIT NO. 116016 MOUNTING KIT

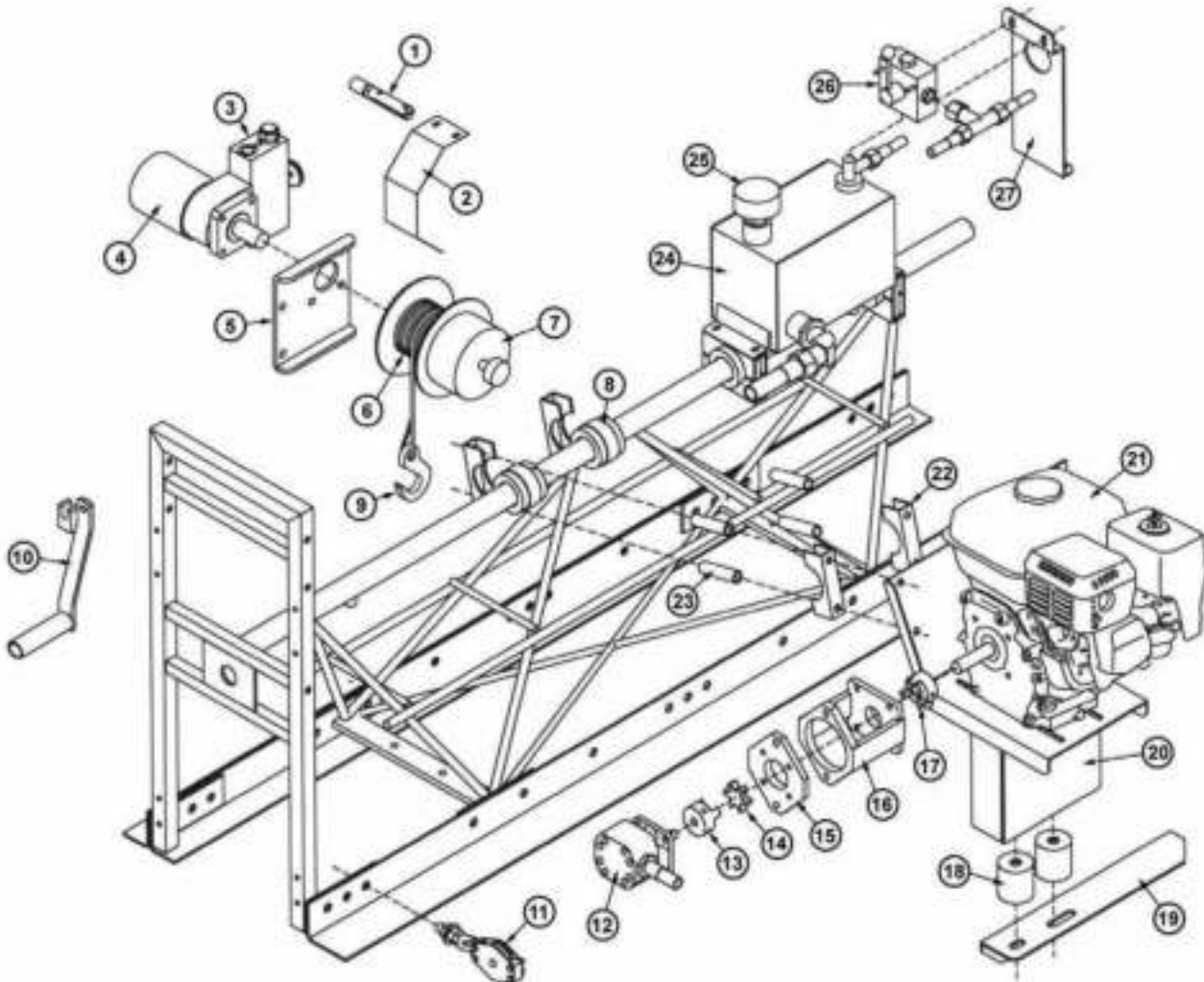
PART# 116016
LUB. BOTTOM DRAIN
ASSEMBLY KIT
DRAIN INSERT
INSERT SEAL
MOUNTING NUT



PART #	DESCRIPTION	QTY
1. 116007	HANGER, LUBRICATOR ASSY	1
2. 116008	CLAMP, U-BOLT	2
3. 116005	LUBRICATOR BOWL ASSEMBLY	1
4. 116003	TEE, SPECIAL F/ GAUGE	1
5. 116004	GAUGE, PRESSURE 0-200 PSI - 1/4" BM-MNT	1
6. 116002	VALVE, FLOW CONTROL	1
7. 116001	CONNECTOR, CROWS FOOT	1
8. 116010	PIN	1
9. 100211	HOSE, 65" LONG 1" RED	1
10. 100194	CONNECTOR, CROWS FOOT NIPPLE	1
11. 100193	PIPE, NIPPLE	1
12. 100261	CLAMP, BANDIT TYPE	2
13. 116006	HOSE ASSEMBLY COMPLETE	1
14. 010090	WASHER, LOCK 5/16	4
15. 010100	FSTN, NUT HEX 5/16	4

PARTS SECTION 2

• HYDRAULIC WINCH ASSEMBLY •



PART #	DESCRIPTION	QTY
1. 029109	ROD, SPRING	1
2. 029108	SPRING, F/ HYD. WINCH	1
3. 029107	VALVE, BLOCK F/ WINCH	1
4. 034011	MOTOR, HYDRAULIC	1
5. 029112	BRACKET, HYD. MOTOR MOUNTING (RH)	1
029113	BRACKET, HYD. MOTOR MOUNTING (LH)	1
6. 000751	CABLE, 1/8" (AIRCRAFT STYLE)	100'
7. 027898L & R	REEL, HYDRAULIC WINCH	1
8. 027883	BUSHING, SPLIT	4
9. 110008	HOOK, SLIP	1
10. 027906L & R	HANDLE, F/ WINCH	1
11. 025992	HD PULLEY BLOCK W/ EYEBOLT	1
12. 029105	PUMP, HYDRAULIC	1
13. 010268	COUPLER, JAW (1/2")	1
14. 010629	INSERT, F/ JAW COUPLER	1
15. 011449	SPACER, F/ PUMP ADAPTOR	1
16. 221162	BRACKET, MOTOR-TO-PUMP	1
17. 010973	COUPLER, JAW (3/4")	1
18. 012725	ISOLATORS, RUBBER	2
19. 027871	BRACKET, MOTOR BRACKET MOUNTING	1
20. 028101	BRACKET, F/ MOTOR MOUNTING	1
21. 018961	ENGINE, HONDA 5.5 HP	1
22. 027884	CLAMP, ENGINE MOUNT	8
23. 027885	SPACER, F/ CLAMP	8
24. 034733L & R	TANK, HYDRAULIC	1
25. 034013	CAP, F/ TANK	1
26. 028987	VALVE, ON/OFF SWITCH	1
27. 036664	BRACKET, F/ ON/OFF VALVE	1



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