



GRANDEUR MANUFACTURING, INC.

GRANDEUR BUILDING HWY. 67 EAST
P.O. BOX 216
JONESVILLE, NC 28642

Operators Manual

Kleeco

Model# SP600H

S/N 062829918

Capacity 30 Ton



Erie Industries, Inc.

Marine & Industrial Equipment

Kleeco MOBILE HOIST SP 600 H

P.O. Box 270
400 N. Buckeye Street
Bellevue, OH 44811
PH. (419) 483-3840
FAX (419) 483-8242

**SPECIFICATIONS FOR: USCG ISC MIAMI, FLORIDA
CONTRACT DTCG82-99-P-3WC160 SECTION #14600
55,000 LB. CAPACITY OPEN END BOAT HOIST
WITH MANUAL SLING SPACING SYSTEM**

OPERATING CHARACTERISTICS

Rated capacity:	27.5 Ton 55,000 lbs.
Hoisting speed, unloaded:	0 - 13' per minute
Hoisting Speed, loaded:	0 - 8' per minute
Drive (Travel) Speed:	0 - 150' per minute
Gradeability on concrete	6% Normal
Steering	90 degree
Sling Spacing	1' to 26'
Cable drop below grade:	10' - 0"

DIMENSIONS

Inside clear width:	21' - 8" ?
Overall width:	25' - 7" ?
Inside clear height:	25' - 0"
Overall height:	27' - 0"
Overall length	26' - 0"
Tread width:	23' - 6" ?
Wheel base:	21' - 0"
Shipping Weight (approx.)	30,000 lbs.

EQUIPMENT

Engine:	FORD BSD444 Diesel
Hoists:	Four-(4) Independently controlled.
Tires (4)	46 x 16 Aircraft New Recap, Rib Tread
Slings (4):	4-10" wide 2-Ply. X 28'
Rated Basket Capacity:	56,000 lbs. per sling with weighted keel pads and extra eyes as specified.
Wire Rope:	5/8" ϕ EIPSIWRCRRL Galvanized 4 part line per corner.
Fuel Tank (Diesel)	15 Gallons
Spreaders:	Four-(4)

EQUIPMENT - (continued)

- | | |
|--|---|
| ◆ Full Sized Sheaves with Greasable Roller Bearings. | ◆ Paint system as specified, |
| ◆ Full Sized Hoist Drums with an Extra Wrap of Cable at Rated Drop. | ◆ Stainless Steel Hydraulic Tubing. |
| ◆ Mechanical Anti-Two Block System, Prevents Two Blocking. | ◆ Engine instrument panel. |
| ◆ Automatic Independent Hydrostatic and Mechanical Hoist & Drive Brakes. | ◆ Load Weight Gauges. |
| ◆ All Brake Systems are Fail-Safe, Lock if Hydraulic Pressure Drops. | ◆ One-(1) Spare Tire, Tube, & Flap. |
| ◆ Forward Beam Design Yields More Lifting Area for Rigging. | ◆ Automatic travel alarm (forward & reverse). |
| ◆ 40 Gallon Hydraulic Fluid Reservoir w/suction & return filter. | ◆ Spare parts as specified |
| ◆ Low Centralized operator position, view of all four-(4) wheels. | ◆ All Controls Operated from Ground Level. |
| ◆ Engine Protection System to include low oil pressure automatic shutdown. | ◆ Three-(3) Manuals - Operation & Maintenance |
| ◆ Eight-(8) Hours Operational and Maintenance Training. | ◆ One-(1) Gallon Touch-up Paint. |

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Kleeco MOBILE HOIST

INTRODUCTION

The purpose of this manual is to acquaint you with the operation and maintenance procedures for your new self-propelled *Kleeco* Mobile Hoist. The *Kleeco* Mobile Hoist is constructed of the highest quality materials to give years of dependable service. The following instructions and suggestions performed at regular specified intervals will enable you to operate and maintain your Mobile Hoist in the most efficient manner possible.

The *Kleeco* Mobile Hoist is essentially a self-propelled gantry hoist. It is the most versatile and efficient piece of equipment designed specifically for handling and hauling your load.

All operating functions, including hoist, traverse and drive systems are operated by control valves located in the operator's cage allowing simple, efficient one-man operation of all hoist operations. Single or simultaneous hoist control minimizes handling problems and provides true load hauling.

Large airplane type high-flotation tires permit easy operation on paved and unpaved areas. A rugged gasoline or diesel engine powers hydraulic pumps, motors and cylinders for propulsion, steering, and lifting operations.

The *Kleeco* Mobile Hoist is designed to operate on a surface, which is relatively level and firm. Concrete, asphalt, or a well-packed fine gravel will furnish a suitable operating surface. A graded yard area will contribute greatly to the smooth operation of your *Kleeco* Mobile Hoist.

We at Erie Industries, Inc. take pride in our *Kleeco* Mobile Hoist and maintain a permanent file on your machine.

IF YOU HAVE ANY QUESTIONS OR ARE IN NEED OF PARTS
PLEASE CALL (419) 483-3840.

KLEECO JOB REGISTRATION

SHOP COPY

ORIGINAL TO JOB FILE, COPY TO DAN, MIKE, BILL R., BILL G., AND BRUCE

ISSUE DATE : 12/22/1999

JOB NUMBER: 9918

COMPANY: USCG INDUSTRIAL SUPPORT CENTER, MIA CUSTOMER NUMBE 1800
PERSON: COMMANDING OFFICER

MAILING ADDRESS
100 MACARTHUR CAUSEWAY
MIAMI BEACH , FL 33139-5101
USA
PHONE 305 535-448 EXT

SHIPPING ADDRESS
100 MACARTHUR CAUSEWAY
MIAMI BEACH , FL 33139-5101
USA
PHONE EXT

DELIVERY DATE: 12/30/1999

TERMS: NET 30

DESCRIPTION OF PROJECT: SP600H

SERIAL NUMBER 062829918

INSIDE CLEAR WIDTH = 21'2"

INSIDE CLEAR HEIGHT = 25'0"

WHEELBASE = 21'0"

SLING SIZE = 10" W X 28' L 2-PLY

COLOR = WHITE

ENGINE MANUFACTURER FORD

ENGINE MODE BSD-444

OPTION 1 TRAVEL ALARM (FWD & REV)

OPTION 2 40 GAL HYD. OIL RESERVOIR

OPTION 3 SUCTION & RETURN HYD FILT

OPTION 4 SPARE TIRE, TUBE AND FLAP

OPTION 5 LOAD WEIGH GAUGES

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ISSUE DATE : 12/22/199

JOB NUMBER: 9918

JOB #: NOTES:

9918 TIRES - 4 EA. 46 X 16 AIRCRAFT NEW RECAP, RIB TREAD TIRES.

4-HOIST STANDARD

WIRE ROPE - 5/8" HOT-DIPPED GALVANIZED - 4 PART LINE PER CORNER
SIZED FOR LOADS INDICATED.

4 SLINGS - 10" WIDE X 28' LONG WITH TWO EXTRA EYES 4' FROM EACH END,
2-PLY POLYESTER, RATED CAPACITY = 56,000 #

BS2-910

4 SPREADERS STANDARD

10' DROP BELOW GRADE

INSIDE CLEAR HEIGHT INCREASED BY 7' TO 25' HIGH

INSIDE CLEAR WIDTH INCREASED BY 3' TO 21' - 2" WIDE.

TO BE USED ON 21' CLEAR WIDTH SLIP WITH 8X4X1/2 ANGLE IRON GUARD
RAILS ON THE INSIDE EDGE OF EACH PIER.

WHEEL BASE INCREASED BY 1' TO 21'

INSTRUMENT PANEL TO INCLUDE:

IGNITION SWITCH

AMMETER

HOUR METER

COOLANT TEMPERATURE

FUEL GAUGE

OIL GAUGE

SLING LOAD WEIGH GAUGES

MATERIAL COATING:

STANDARD MANUFACTURER'S COATING FOR SALT WATER ENVIRONMENT

1 GALLON TOUCH UP PAINT IN ADDITION TO TOUCH UP DONE AT ERECTION

"ALL EXPOSED BOLTS, NUTS, WASHERS AND OTHER ATTACHING HARDWARE
UTILIZED IN THE FABRICATION OF THE BOAT HOIST SHALL BE COATED TO
MATCH THE EXISTING COLOR OF THE BOAT HOIST FRAMEWORK."

AUTOMATIC TRAVEL ALARM THAT OPERATES BOTH FORWARD AND
REVERSE.

PLUS MANUAL ELECTRIC HORN.

FUEL TANK - 15 GALLONS MINIMUM.

ENGINE PROTECTION SYSTEM SHALL INCLUDE LOW OIL PRESSURE
AUTOMATIC SHUTDOWN

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ISSUE DATE : 12/22/199

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1 EA. 46 X 16 AIRCRAFT SPARE TIRE, TUBE AND FLAP.

SPARE PARTS KIT TO INCLUDE:

COMPLETE SET OF HYDRAULIC FILTER ELEMENTS

COMPLETE SET OF ENGINE FILTER ELEMENTS

SPARE SET OF IGNITION KEYS (TWO KEYS)

ON-SITE ERECTION BY EII CREW

CRANE & EQUIPMENT RENTAL, MILLWRIGHT W/ TRUCK AND TOOLS TO BE
DETERMINED YET.

FREIGHT COMPANY TO BE DETERMINED YET.

Marine & Industrial Equipment

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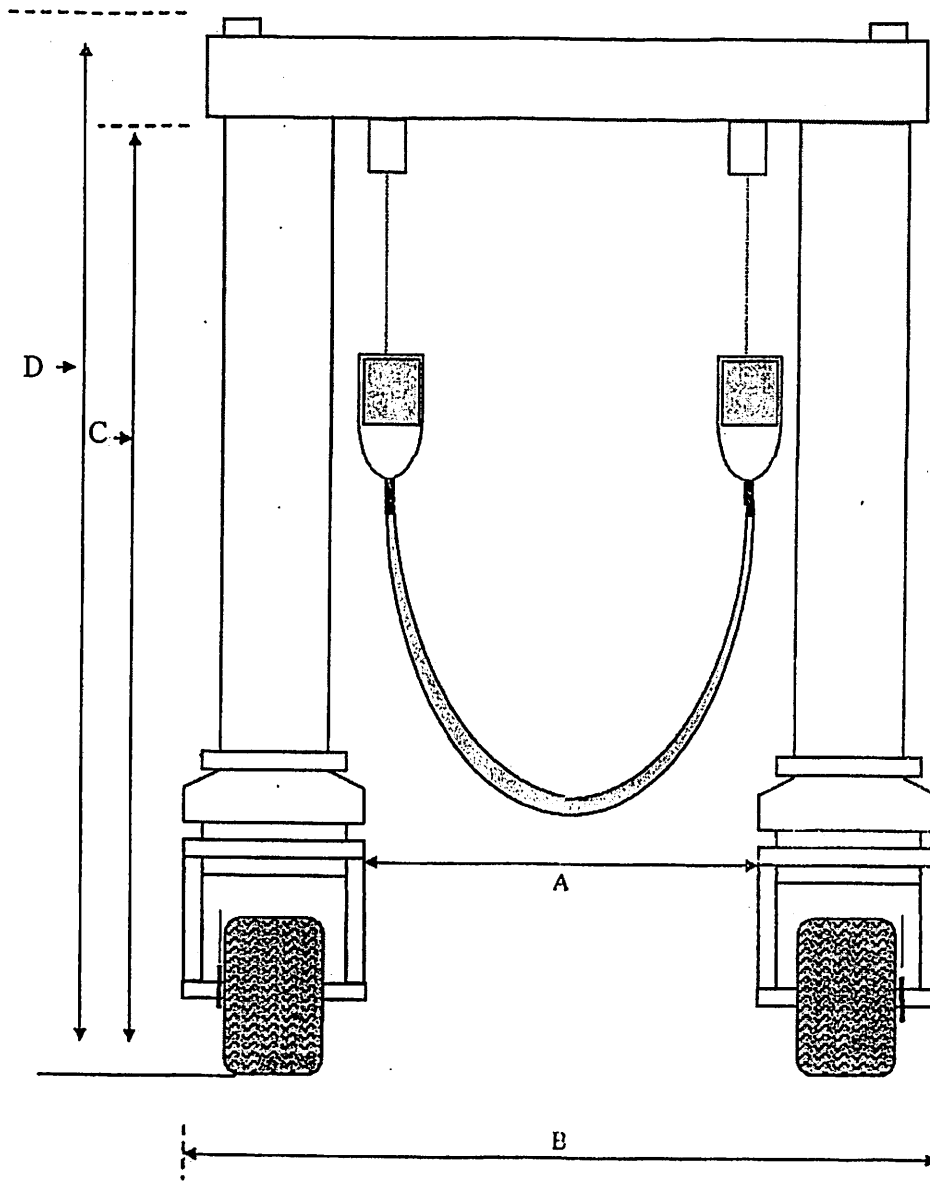
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EQUIPMENT - (continued)

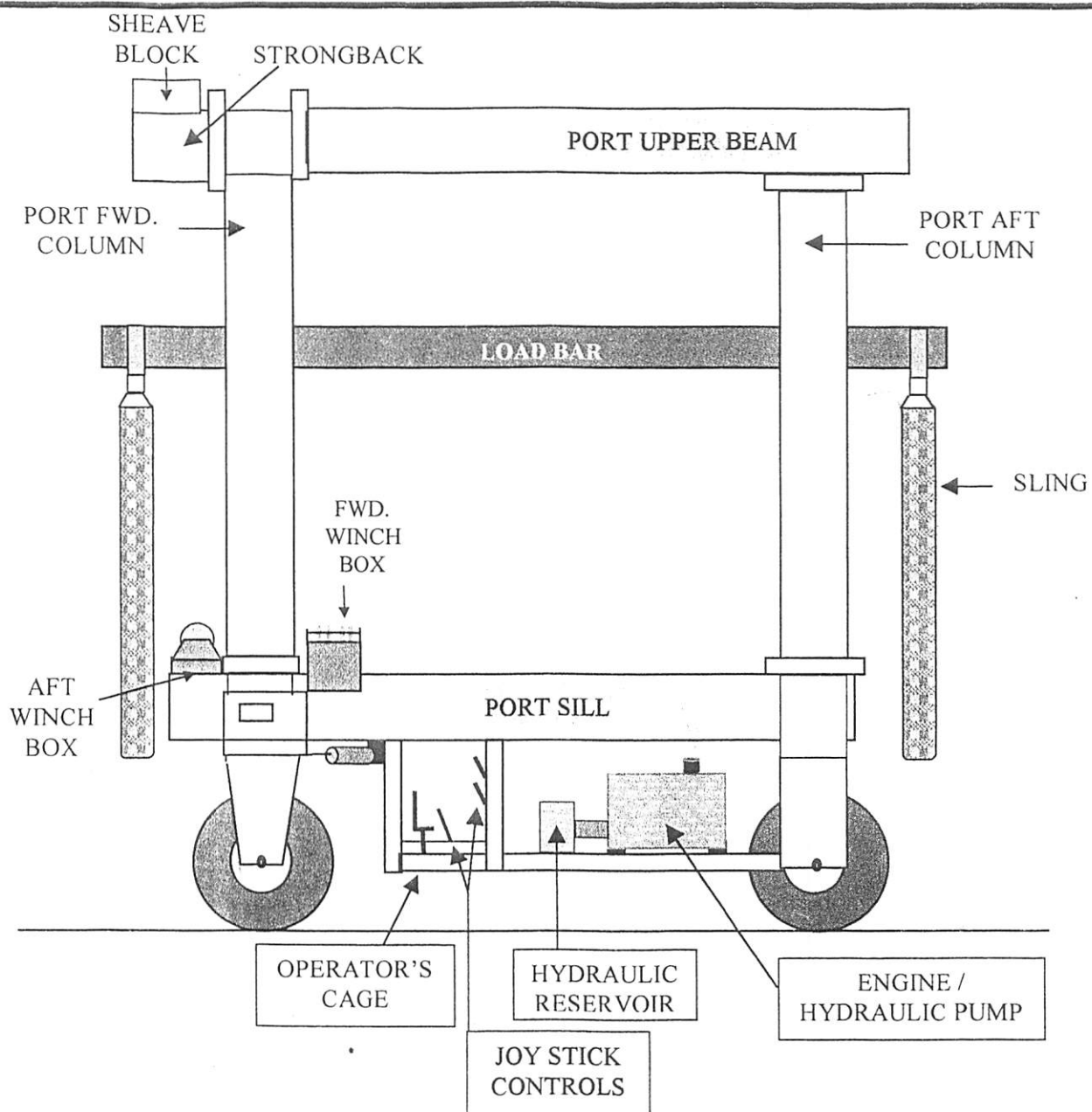
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|--|---|
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| ♦ Mechanical Anti-Two Block System, Prevents Two Blocking. | ♦ Engine instrument panel. |
| ♦ Automatic Independent Hydrostatic and Mechanical Hoist & Drive Brakes. | ♦ Load Weight Gauges. |
| ♦ All Brake Systems are Fail-Safe, Lock if Hydraulic Pressure Drops. | ♦ One-(1) Spare Tire, Tube, & Flap. |
| ♦ Forward Beam Design Yields More Lifting Area for Rigging. | ♦ Automatic travel alarm(forward & reverse). |
| ♦ 40 Gallon Hydraulic Fluid Reservoir w/suction & return filter. | ♦ Spare parts as specified |
| ♦ Low Centralized operator position, view of all four-(4) wheels. | ♦ All Controls Operated from Ground Level. |
| ♦ Engine Protection System to include low oil pressure automatic shutdown. | ♦ Three-(3) Manuals - Operation & Maintenance |
| ♦ Eight-(8) Hours Operational and Maintenance Training. | ♦ One-(1) Gallon Touch-up Paint. |

***Kleeco* MOBILE HOIST**
Modified 01 SEPT 2020



MODEL SP 600 H

A.	INSIDE CLEAR WIDTH	19' - 11"
B.	OVERALL WIDTH	23' - 9"
C.	INSIDE CLEAR HEIGHT	20' - 3"
D.	OVERALL HEIGHT	22' - 0"



ERIE INDUSTRIES, INC.
400 NORTH BUCKEYE ST.
BELLEVUE, OH. 44811

(419) 483-3840

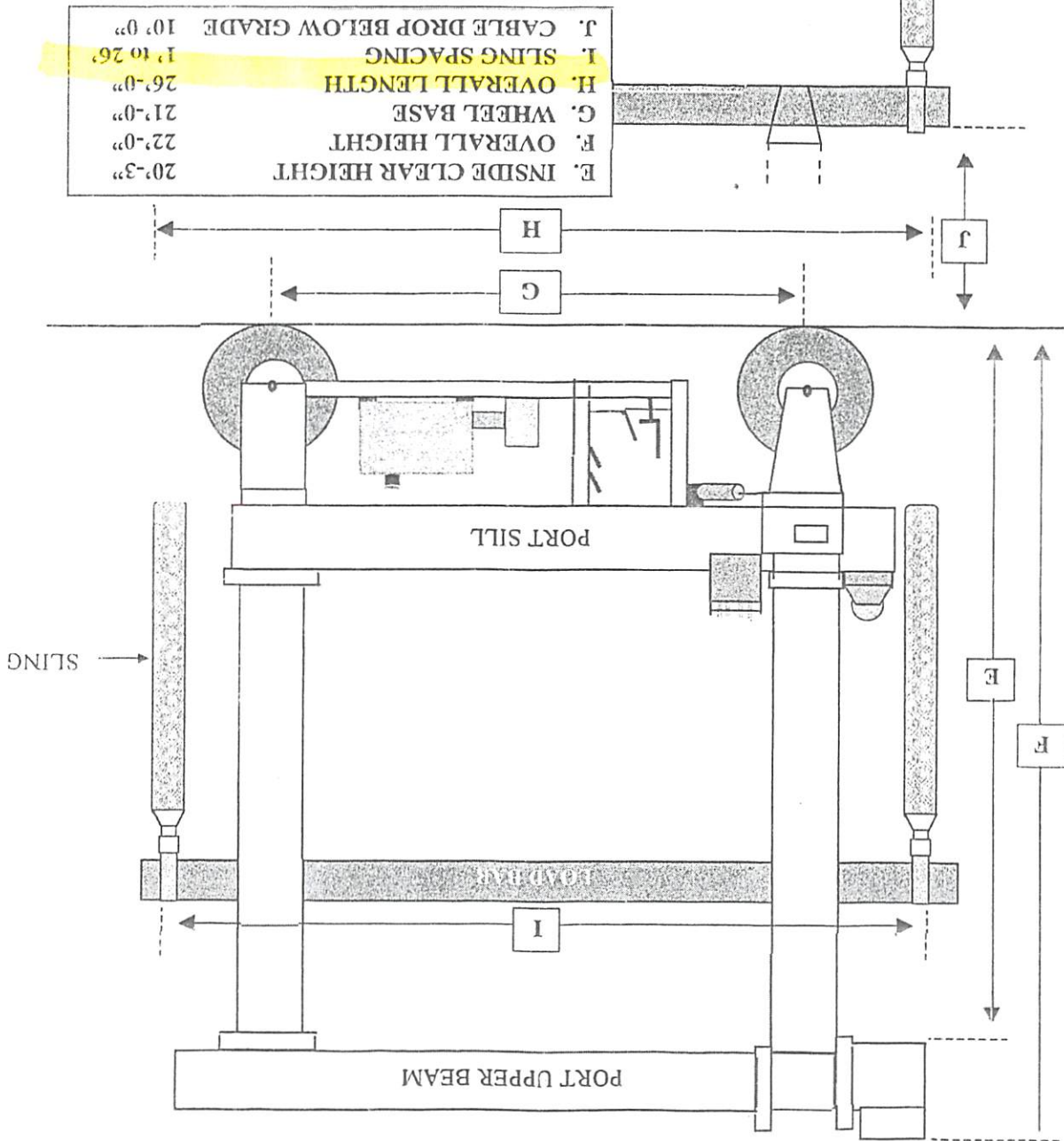
Kleeeco **MODEL SP600H COMPONENTS**

DRW: CSS

DATE: 9/99

NTS

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BELLEVUE, OH. 44811

(419) 483-3840

DRW: CSS

DATE: 9/2020

NTS

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Kleco MODEL SP600H
MODIFIED
SIDE VIEW



Erie Industries, Inc.

Marine & Industrial Equipment

P.O. Box 270
400 N. Buckeye Street
Bellevue, OH 44811
PH. (419) 483-3840
FAX (419) 483-8242

LIMITED WARRANTY

ERIE INDUSTRIES, INC. of North Buckeye Street, Bellevue, Ohio 44811, (419) 483-3840, hereby offers this limited warranty on each new *Kleeco* Crane or *Kleeco* Carrier warranting said products to be free from defects in material and workmanship for one (1) year from the date of shipment from the factory. The obligation under this warranty is limited to the replacement or repair of the defective parts, in the first instance, at **ERIE INDUSTRIES, INC.** factory, or at a point designated by **ERIE INDUSTRIES, INC.** after authorized inspection at such point.

This warranty does not obligate **ERIE INDUSTRIES, INC.** to bear the cost of labor or transportation charges in connection with the replacement or repair of defective parts.

This warranty shall not apply to *Kleeco* Cranes or *Kleeco* Carriers upon which repairs or alterations have been made without the authorization of **ERIE INDUSTRIES, INC.**

Any operation, use or application of *Kleeco* Cranes or *Kleeco* Carriers other than according to the capacities, conditions, loading and instructions published by or approved in writing by **ERIE INDUSTRIES, INC.** shall void this warranty.

ERIE INDUSTRIES, INC. makes no warranty in respect to trade accessories or components which are purchased from other manufacturers and installed so as to complete the assembly, such being subject to the warranties of their respective manufacturers.

The warranty herein expressed is the only warranty applicable to *Kleeco* Cranes and *Kleeco* Carriers and is expressly in lieu of all other written and expressed warranties. All implied warranties are limited in duration to one (1) year from the date of the shipment from the factory. **ERIE INDUSTRIES, INC.** has no other obligation or liability relating to the products except as specified herein and **ERIE INDUSTRIES, INC.** neither assumes or authorizes any other person or legal entity to assume for it any other obligations or liabilities in connection with the aforementioned products. It is expressly agreed that repair or replacement of defective parts, malfunctioning parts or parts failing to conform to the warranty is the remedy in the first instance and that refunds shall not be a remedy until **ERIE INDUSTRIES, INC.** has had a reasonable number of times to repair or replace the defective part, malfunctioning part or part failing to conform to this warranty. This warranty does not cover consequential damages suffered by the consumer.

OPERATING INSTRUCTIONS

CAUTION

1. To prevent injuries do not allow anyone to ride on the hoist, boat, or on the load for any reason.
2. Make sure all personnel are clear of the load and are ready for the hoisting procedures.

A. FUEL TANK

- ◆ Fill with a high quality fuel to a level of one- (1) inch below the top. The capacity of the fuel tank may be specified in the Specifications on page 4 in this manual.
- ◆ Use only reputable brands of fuel of proper grade.

B. OIL LEVEL

- ◆ Inspect the dipstick and maintain the proper oil level as indicated.
- ◆ Consult the engine manual for grade and weight of oil to use.

C. AIR CLEANER

- ◆ Inspect for excessive accumulation of dirt.

THE AIR CLEANER MUST NOT BE FILLED WITH OIL.....KEEP DRY.

D. RADIATOR

- ◆ Maintain coolant level at 1" below the top.

E. START THE ENGINE

1. Set the throttle to idle position.
 2. Hold in automatic shutdown button (ASB) and turn ignition switch & engage starter.
 3. Once engine has started, release the key and ASB button.
- ◆ Let the engine warm up at an idling speed for approximately 3 minutes. This is essential to allow the lubricating oil to reach proper viscosity and to allow the bearing clearances to approach normal operation settings.

WARNING: DO NOT RACE OR GUN ENGINE TO HASTEN THE WARM UP PERIOD.

F. TIRES

- ◆ Maintain pressure at a minimum of 100 PSI and a maximum of 125 PSI, unless your tires are foam filled.
- ◆ Inspect daily for deep cuts and abrasions.

OPERATING INSTRUCTIONS - (continued)

G. HYDRAULIC FLUID LEVEL

- ◆ Always check level gauge for proper quantity of oil. Add if necessary check under mobile hoist for oil leaks.
- ◆ See "GENERAL MAINTENANCE" in Section II of this manual.

H. DRIVE AND HOISTING CHAINS

- ◆ Keep clean.
- ◆ Maintain a fine coating of lubrication and a minimum of slack.

I. WIRE ROPE

- ◆ Check for excessive wear. Wire rope should have a light coating of oil to lubricate the inner core. Check for flat spots, fishhooks and areas where the rope is unwinding. Be sure the wire rope is not kinked. Inspect all wire and attachments.
- ◆ See "GENERAL MAINTENANCE" in Section II of this manual.

IMMEDIATELY REPLACE ANY WIRE ROPE THAT IS DAMAGED.

J. HOIST DRUMS

- ◆ Before hoisting a load, inspect the hoist drums for proper spooling.
- ◆ If the wraps are loose or soft, unwind that drum and re-spool the cable as tightly as possible. Overrides will damage the cable.

K. LOAD WEIGHING SYSTEM - LOAD GAUGES - (if applicable)

This is an optional item that may/or may not be on your hoist. See Specifications on page 4 of this manual.

- ◆ Small hydraulic cylinders are mounted on the ends of the hoisting wire rope. These transmit pressure to the gauges mounted in front of the operator. Once the system is charged, little or no maintenance is required.

To charge the system initially or when the cylinders bleed down; complete the following steps:

1. Idle engine.
2. Engage the hoist valve, up or down, & open the associated ball valve. Then close the ball valve before disengaging the hoist valve.
3. Pressure gauge should have a reading. To get the reading closer to zero quickly crack open the ball valve and close without engaging the hoist valve.

The gauge should read zero- (0) pounds. If the system does not work properly after this, the cylinder will need bleeding. To do this see "GENERAL MAINTENANCE" in Section II of this manual.

OPERATING INSTRUCTIONS - (continued)

L. POWER SLING OPERATION DESCRIPTION - (if applicable)

- ♦ All *Kleeco* mobilehoists from 15 to 100 ton capacity can utilize a powered sling spacing system. The system has a hydraulic motor driven speed reducer to move the upper sheave block with a power chain. This provides reliable, non-slip adjustments to the port side slings. One reducer is used for each set of slings, fore and aft.
- ♦ A pair of wire rope cables are connected to the upper sheave block and are led around the strongback of the mobile hoist to the upper sheave blocks on the starboard side. This set of cables provides the push-pull action necessary to synchronize both sets of sheave blocks. Once the system has been set, no adjustment is necessary other than occasionally checking the tension in the chain drive and push-pull cables. Jackscrew adjusters are provided for both of these.
- ♦ In addition, the upper sheave block sliders are designed to be self-locking when a load is applied. The worm gear drive of the speed reducer is of a ration that causes it to lock when stopped.
- ♦ The system ensures coordinated movement of the sheave blocks on both sides of the machine with no slippage in the mechanism possible. This system has been in use on industrial straddle carriers for some time with great success.

Power Sling Components - See diagram following these instructions.

1. **Strongback** - Structural member connecting the port and starboard sides of the mobile hoist.
2. **Port Upper Beam** - Structural member holding hoisting system for starboard side.
3. **Starboard Upper Beam** - Structural member holding hoisting system for starboard side.
4. **Port Slider** - Holds upper sheaves, either two-(2) or three-(3) sheaves, depending upon capacity of the mobile hoist. This slides fore and aft on a track located on the upper beam. Port side connects to the chain drive (7) for adjustment fore and aft. Also, connects to wire rope (12) to control the starboard slider (11).
5. **Lower Sheave Block** - Holds lower sheaves and connects to slings and spreaders.
6. **Speed Reducer / Hydraulic Motor** - Powers slider chain (7) for and aft to move port slider (4).
7. **Slider Chain** - Extends from slider reducer (6) to idler sprocket (8) to move port slider (4).
8. **Idler Sprocket** - For slider chain (7).
9. **Slider Sheave** - Turns slider wire rope (12) to route it around mobile hoist.
10. **Wire Rope** - Runs from hoisting winch to sheave blocks (4, 5 & 11) then to dead end or load weighing cylinder. Does the actual hoisting of a load.
11. **Starboard Slider** - Similar to #4 above, only connects to slider wire rope (12).
12. **Slider Wire Rope** - Performs the actual work of coordinating the sheave blocks, for the port & starboard sliders, together.

OPERATING INSTRUCTIONS - (continued)

When both fore and aft sling sets are to be adjustable, a duplicate system for the open-end (aft) set of slings is mounted on the upper beams. The speed reducer / hydraulic motor is at the forward end of the system near the speed reducer / hydraulic motor for the open-end (forward) system.

Power Sling Adjustment Systems

Do not adjust the sling spacing with any load on the slings. Sling sliders are designed to lock in place when loaded.

1. Adjust sling spacing appropriately for boat being hoisted.
 - ♦ A powered sling system allows the operator to adjust sling spacing from the operator's cage.
2. Another person is required to ensure the sling is placed properly on both sides of the boat.
3. Normal hoisting of the load will be as far forward into the hoist as possible.
4. **The best load distribution is accomplished by keeping the boat just aft of the strongback.**
5. The slings can be moved from one end to the other with the operating levers on the slider valves.
 - ♦ When the slider reaches the end of it's travel, release the valve to prevent damage to the chain.
 - ♦ Speed is fixed and governed to avoid a sling being accidentally caught on fittings.

M. SLINGS

Most Kleeco slings have extra eyes to shorten the sling for smaller boats. When not using the extra eye, make sure it is on the outside of the sling, away from the boat. This will **prevent damage** due to pressure from the extra eye being trapped between the boat and sling.

- ♦ Inspect for cuts, abrasions and excessive wear.
- ♦ Make sure the sling is not twisted, hung up on any protrusions, through hulls, rudders or shafts.
- ♦ See OSHA Guidelines for Slings.
- ♦ See "Slings" in "**GENERAL MAINTENANCE**" in Section II of this manual.

N. MODULAR HOME SPREADER SYSTEM

1. Adjust the width of the lifting arms, to match the width of the load to be lifted. (i.e.: 12', 14' etc.).
2. Lifting arms should be vertical when in closed position.
3. Close lifting arms.
4. Lifting beam must be **completely** under the load.
5. Attach **safety chains** between lifting beams.

CAUTION:

**LIFTING BEAMS MUST BE CLEAR OF ALL PRODUCTION LINE EQUIPMENT.
DO NOT ATTEMPT TO LIFT LOAD WITHOUT SAFETY CHAINS ATTACHED.**

OPERATING INSTRUCTIONS - (continued)

O. SWIVEL JAW AND HOOK (if applicable)

- ♦ A potential hazard exists when lifting or dragging heavy loads with tackle block assemblies. Loads may disengage from hook if proper procedures are not followed. Failure to use tackle block systems properly may cause a load to slip or fall resulting in serious injury or death.
- ♦ Instruct workers to keep hands and body away from block sheaves, swivels, and from "pinch points" where the rope touches block parts or loads.
- ♦ **Do not** side load tackle blocks!!
- ♦ Please refer to "**GENERAL MAINTENANCE**" in Section II of this manual.
- ♦ Always inspect hook and latch before using. Never use a latch that is distorted or bent. Always make sure spring will force the latch against the tip of the hook.
- ♦ When placing two sling legs in hook, make sure the angle between the legs is less than 90 degrees and if the hook or load is tilted, nothing bears against the bottom of this latch.
- ♦ Latches are intended to retain loose sling or devices under slack conditions. Latches are not intended to be an anti-fouling device.

P. HOISTING THE LOAD

- ♦ Always be familiar with the load to be lifted.
- ♦ Before lifting, make sure the load is equally distributed front and rear, and/or between the hooks (if applicable).
- ♦ Move the hoist levers in the direction you want to hoist, pull for up and push for down. The hoist system will lift all corners, both hooks (if applicable), at equal speeds and distance if the hoist levers are completely moved to the end of their strokes.

REMEMBER: ***THE HOISTS ARE SYNCHRONIZED ONLY WHEN THE HOIST VALVES ARE MOVED TO THE END OF THEIR STROKES.***

Q. HOIST AND DRIVE BRAKES

- ♦ Planetary speed reducers (dual fail-safe braking system) are used on newer model hoists. Mechanical braking systems were used on older hoists.
- ♦ See "**GENERAL MAINTENANCE**" in Section II of this manual.

CAUTION

Avoid quickly closing the drive valve, as this causes hydraulic pressure to drop and forces the motor and brake to lock. Residual vehicle momentum will then cause severe damage to components and/or failure of the hoist.

OPERATING INSTRUCTIONS - (continued)

HOIST AND DRIVE BRAKES – (continued)

- ◆ The drive system uses one counter balance (holding) valve.
- ◆ This self-contained automatic valve will allow oil to flow through only when hydraulic pressure is applied to the pilot port of the valve.
- ◆ The pressure is applied only when the drive valve is opened.
- ◆ Dynamic braking is accomplished by slowly closing the drive valve.
- ◆ If no pilot pressure is applied, the holding valve hydrostatically locks the drive motor. This prevents the mobile hoist from moving.
- ◆ The hoist system uses individual holding valves for each hoist.
- ◆ Without pilot pressure (*applied only when the specific hoist valve for that hoist is opened*) the hoist holding valve hydrostatically locks the hoist motor preventing the lowering of the load.

R. SECONDARY BRAKING (Parking Brake)

- ◆ Brakes are the same for both hoist and drive systems.
- ◆ Individual brakes are used for each drive motor and each hoist motor.
- ◆ When hydraulic pressure is not being applied to the motor, heavy springs engage the brake.
- ◆ When hydraulic pressure is applied to the motor an internal piston in the brake compresses the springs and releases the brake.

S. TRAVELING

- ◆ When your load is securely lifted, the mobile hoist may be moved by operating the drive lever, located next to the operator. Both steering and drive systems are engaged using this control.
- ◆ Move the drive lever in the direction to be traveled. Move the joystick slowly to ease the mobile hoist into drive or park.

CAUTION: **DO NOT ATTEMPT TO HOIST OR LOWER A LOAD WHILE TRAVELING.**
THE CONTROL CIRCUIT WILL NOT ALLOW BOTH OPERATIONS AT ONCE.

T. STEERING

Move the steering lever in the direction to you want to travel. The front wheels will turn in that direction. Steering angles may be made up to 90 degrees. At this point, the mobile hoist will be pivoting around the inside rear wheel, which will remain stationary. In this manner, the mobile hoist can be maneuvered into tight areas. Keep in mind that tire scrub will increase as the turn becomes tighter.

AVOID TURNING IF THE MOBILE HOIST IS NOT TRAVELING.

OPERATING INSTRUCTIONS - (continued)

U. SERVICING THE LOAD

- ◆ Always **block** the load, transfer some of the weight to the blocking before servicing the load.

V. SHUTDOWN

- ◆ The mobile hoist will keep a load suspended indefinitely. It is recommended you set the load partly down on the ground or on temporary blocking when the mobile hoist is not operating.
- ◆ To stop the engine, turn the ignition key to the off position.

If the engine has been operating at or near full load, ***do not*** stop without cooling the engine down. Run the engine at a **fast idle** 500-800 rpm for a minute before stopping. This lets internal temperatures equalize.

W. LIMIT CONTROLS

- ◆ When hoisting a narrow load or a load that needs to be lifted high, it is possible to two-block the sheave blocks. If this happens the sheaves and blocks can be damaged.
- ◆ The hoisting system incorporates mechanical stops to prevent the sheaves from two-blocking.

If the hoisting system suddenly seems to stop, although the levers are not centered, ***immediately stop the hoisting procedure and make sure the sheaves are not in danger.***

X. MISCELLANEOUS

- ◆ Generally, the load being handled will have very little side motion or sway.

Certain **precautions** should be taken to avoid inducing motion into the load:

1. Avoid sharp turns and sudden stops while traveling.
2. Never travel at maximum speed when turning in a narrow circle.
3. Never travel at maximum speed when approaching building corners.
4. Never travel at maximum speed when approaching a blind spot.
5. **DO NOT** attempt to operate the mobile hoist on muddy or soft surfaces.

WHEN IN DOUBT USE PLANKS.

6. If the mobile hoist becomes bogged down in mud **NEVER ATTEMPT TO TOW THE UNIT OUT.**
 - ◆ Place a jack under the sill near the wheel housing.
 - ◆ Jack the mobile hoist up until the tires are several inches above the surface and place planks under the tires.

IF YOU NEED ANY ASSISTANCE CALL ERIE INDUSTRIES, INC.

(419) 483-3840

(800) 483-4868

GRANDEUR MANUFACTURING, INC

QUOTE 5218

BOAT LIFT (EXTRAS)

VENDOR	QTY	PART	PART NUMBER
Holland	221 FT	5/8 6x25 GIWRC EIP Cut Length	98900633-1
	242 FT	5/8 6x25 GIWRC EIP Cut Length	98900633-1
	231 FT	5/8 6x25 GIWRC EIP Cut Length	98900633-1
	243 FT	5/8 6x25 GIWRC EIP Cut Length	98900633-1
Tyndall Engineering	1	Engineering Stamp	
Motion Industries	5pc	KDN Seal	25160100-010
Piedmont Truck Tires	4	46x16 Tires, tubes, Flapps & Wheels	
Red Mountain Industrial	1	decal Kit	Misc
	1	Pin-Strongback Hinge Pin	7035
	2	Load Bar 3047D-24" Steel Unpainted	3047
	2	Motor-Hoist/Winch Motor	3600238
	2	Brake-Hoist/Winch Brake	0370635M
	2	Reducer-Hoist/Winch Reducer	003706356
	2	Sheave -12" plastic 5/8" wire rope, Use 1.18" dia. Pin w/bearing and inner race	00200012P
	52	Bearing-Sheave Roller Bearing	2300007
	52	Bearing- Inner Race	2300008
Carolina Cat	1	Cat Engine	458-9576
	1	Parts Manuual Model# 3054C Serial# 033418247	SEBP3644-32
	2	Mount Assembly	207-1706
	2	Mount Assembly	207-1707
	1	Tube As-No	230-8995
	1	Tube As-No	230-8996
	1	Tube As-No	230-8997
	1	Tube As-No	230-8997
	1	Flange	6I-4013
	1	Gasket	6I4039
	1	Clamp Hose	141-1667
	1	Gasket	194-5390
	1	Tube As	225-8525
	4	Washer -Coppe	225-8526
	1	Gasket-Turbo	353-3477
	1	Gasket-Turbo	353-3478
	1	Gasket-Manif	225-8536
	1	Adaptor	302-0581
	1	Line As-lol	507-5019

	1	Turbo GP BAS/Core Deposit	2OR-4009
	1	Hose	234-3029
	1	Gasket	492-3310
	1	Tube-Crossov	367-5799
	1	Hose-Air	236-8750
	1	Manifold-EXH	371-6059
	1	Bracket	307-2805
	1	BracketOMTG	286-4339
	1	Indicator-AI	315-4691
	1	Bracket	418-3216
	1	Cleaner GP	110-2556
	1	Cap	101-7856
	1	Clamp-Hose	324-3528
	2	Spacer	7W-2601
	2	Mounting	320-9211
	1	Mounting	101-7546
	1	Hose Water	292-2946
	1	Hose WTR INL	251-8410
	3	Clamp-Hose	103-1067
	1	Connection A	254-2267
	1	Seal-O-Ring	254-2270
	1	Vee Belt	5L-3307
	1	Connector-SP	215-9508
	1	Connector-SP	215-9509
	1	Clip-Pipe	232-1115
	1	Tube AS-Fuel	233-7421
	1	Tube-Leak OF	274-5043
	1	Bracket	237-0285
	1	Kit-Pump (Lif	467-7011
	1	MTG Kit-EFPM	240-9756
	1	Bracket-MTG	236-7763
	1	Pump A F Inj	10R-9715
Pirtek		All Hydraulic SS Tubing	
ISSI		All Hydraulic Hoses & Fittings	
MISC		Bolt & Hardware (Refab Parts & Material	
		Labor Hours 370	

Upon Approval Parts Delivery & Completion 6 Months