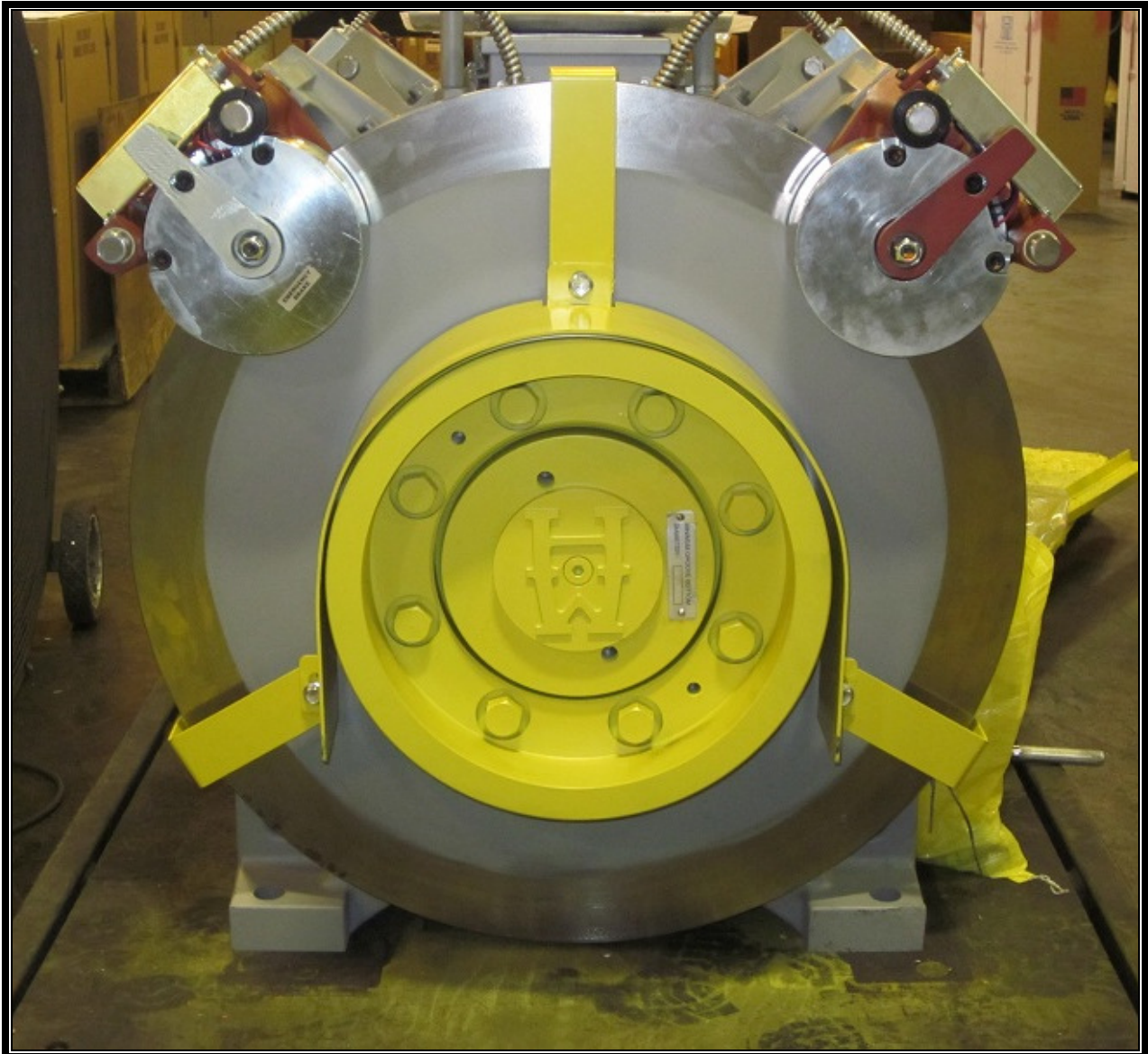


Hollister-Whitney Elevator Corporation

Replacement Manual - Traction Sheave GL100, GL115, GL130 and GL170 Machines





Hollister-Whitney Elevator Corporation

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BEFORE PERFORMING ANY MAINTENANCE ON THE MACHINE TRACTION SHEAVE, TAKE ALL THE NECESSARY SAFETY PRECAUTIONS TO IMMOBILIZE THE CAR AND COUNTERWEIGHT TO PREVENT ANY UNINTENDED MOVEMENT DURING THE MAINTENANCE PERIOD THAT MAY RESULT IN INJURY OR DEATH!



BEFORE PERFORMING ANY MAINTENANCE ON THE MACHINE TRACTION SHEAVE, REMOVE ALL ELECTRICITY FROM THE MACHINE AND BRAKES TO PREVENT ANY UNINTENDED MOVEMENT THAT MAY RESULT IN INJURY OR DEATH DURING THE MAINTENANCE PERIOD!



READ THE ENTIRE TRACTION SHEAVE REPLACEMENT PROCEDURE BEFORE BEGINNING ANY OF THE STEPS OUTLINED BELOW. CONTACT HOLLISTER-WHITNEY WITH ANY QUESTIONS PRIOR TO BEGINNING THE TRACTION SHEAVE REPLACEMENT.



DO NOT USE ANY OTHER MACHINE COMPONENT TO LIFT THE MACHINE! USE ONLY THE HOISTING EYEBOLTS WHEN LIFTING AND MOVING THE MACHINE! HOISTING THE MACHINE BY ANY OTHER COMPONENT WILL RESULT IN DAMAGE TO THE MACHINE AND POSSIBLE FAILURE RESULTING IN THE MACHINE FALLING FROM THE HOISTING SYSTEM!



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I. Traction Sheave Replacement

- Tools required - 11/16" reamer, 11/16" guide pin, can of compressed air (2) - 9/16" wrenches (or adjustable wrenches), 1-1/8" impact socket, impact driver, (2) jack bolts 1/2"-13 with 4" of usable thread, torch with a rosebud tip (or other suitable heat source to heat the sheaves for removal and installation), gloves to handle the sheaves after heating, hoist and the necessary tools to remove the machine from the mounting structure (if necessary.)
- Before removing the old sheave from the machine, verify the new sheave is the same diameter and has the proper number, pitch, and size of rope grooves as the old sheave. If there are differences between the sheaves, contact Hollister-Whitney.
- Before beginning the traction sheave replacement, the counterweight will need to be landed and immobilized in the pit, and the car will need to be hung by a suitable hoisting system within the hoist way. ***IF HOLLISTER-WHITNEY HAS SUPPLIED RAIL LOCK DEVICES FOR THE CAR, THE RAIL LOCKS ARE NOT SUITABLE TO HOLD THE CAR IN PLACE ONCE THE ROPES HAVE BEEN REMOVED FROM THE TRACTION SHEAVE!*** Another method of suspending the car will need to be utilized.
- Once the car has been suspended, and the tension has been removed from the hoist ropes, remove the traction sheave guard by removing bolts "A" and their corresponding lock nuts. Refer to Figure 1.

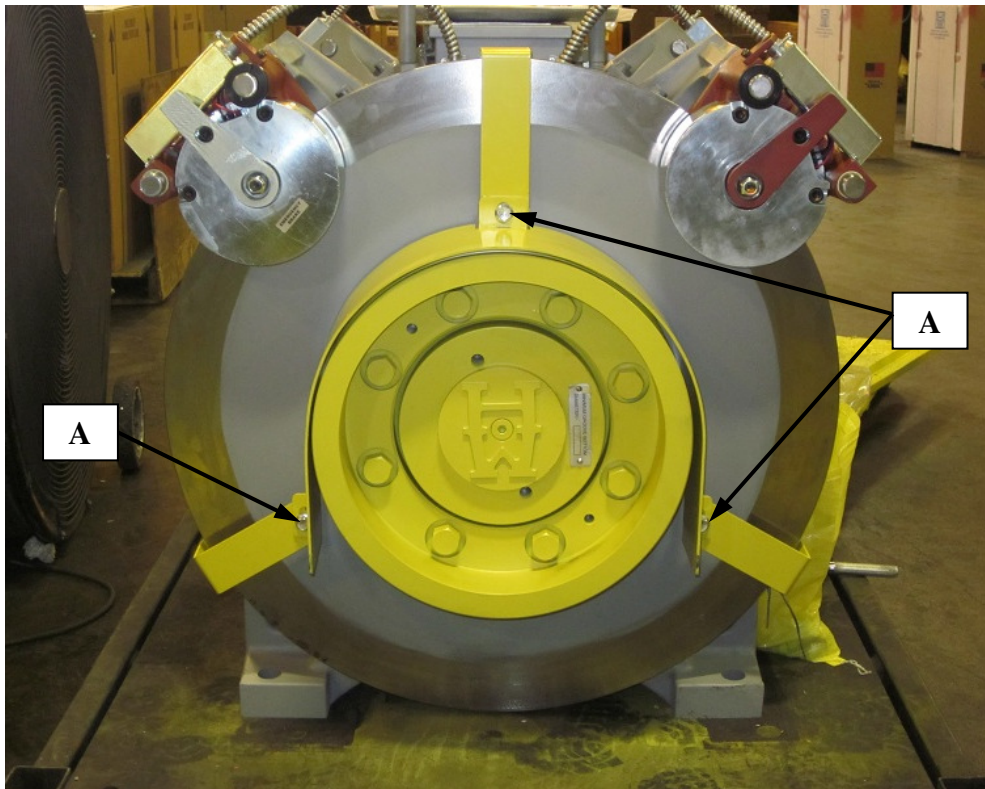


Figure 1



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- After the sheave guard has been removed, move ropes out of the way so that access to the Traction Wheel can be had.
- It is not necessary, but sometimes needed, to move the machine from its operational location. Note all mounting attachments, and electrical connections that are removed. They will need to be reinstalled after repair is made. Refer to Section II below for machine Handling.
- Remove all of the sheave body bolts "A" using an impact driver and install the sheave jack bolts "B." Refer to Figure 2.

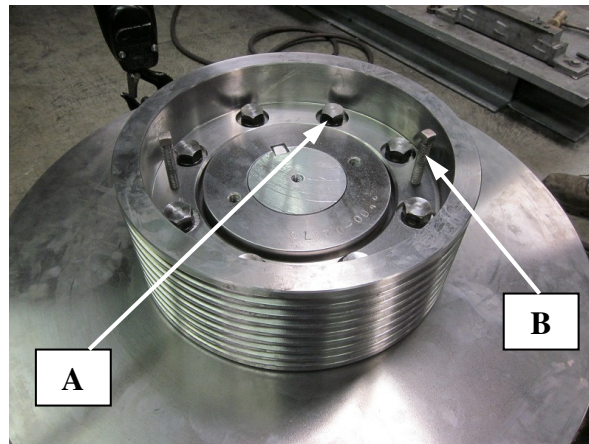


Figure 2



BEFORE REMOVING THE SHEAVE FROM THE MACHINE, SECURELY ATTACH THE SHEAVE TO THE HOIST SYSTEM TO PREVENT THE SHEAVE FROM FALLING, CREATING A HAZARDOUS SITUATION SHOULD THE FALLING SHEAVE STRIKE OTHER ELEVATOR COMPONENTS OR MAINTENANCE PERSONNEL! SEVERE INJURY OR DEATH MAY OCCUR!

- To remove the sheave, use the torch to heat the entire outer rim of the sheave. As the sheave is heated, begin turning the jack bolts equal amounts. As the jack bolts press against the rotor, the sheave will slowly pull away from the rotor. If the sheave becomes tight on the rotor as the jack bolts are turned, stop turning the jack bolts and continue heating the sheave. It may take several instances of re-heating the sheave, depending on how quickly the jack bolts are turned to press the sheave from the rotor.
- With the old sheave supported by the hoist system, and free of the machine rotor, remove the old sheave from the area. Refer to Figure 3.

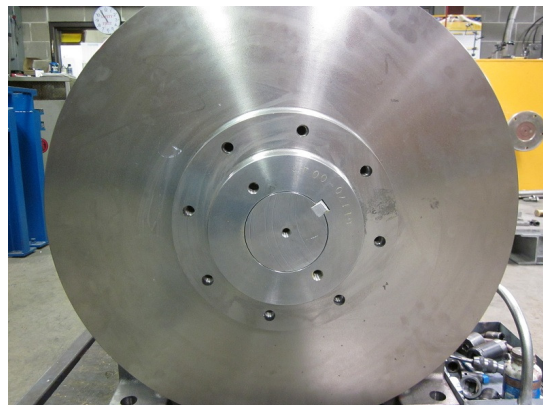


Figure 3



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- To install the new sheave, first, attach the new sheave to the hoist system and place the sheave in front of the machine.
- Then, using the torch, heat the entire outer rim of the new sheave. Once the sheave is sufficiently heated, it should slide onto the rotor without needing pressed or forced. If it will not slide onto the rotor, continue heating the sheave. **DO NOT EXCEED A SURFACE TEMPERATURE OF 350°F ON THE SHEAVE!** If the sheave will not slide onto the rotor at that temperature, contact Hollister-Whitney.
- With the new sheave on the rotor, and still hot, insert the 11/16" guide pin "A" into one of the sheave mounting holes and one of the mounting holes on the rotor. Once the guide pin has one set of holes exactly aligned, use the 11/16" reamer "B" as necessary to ensure all the other mounting holes on the sheave will align properly. Refer to Figure 4.

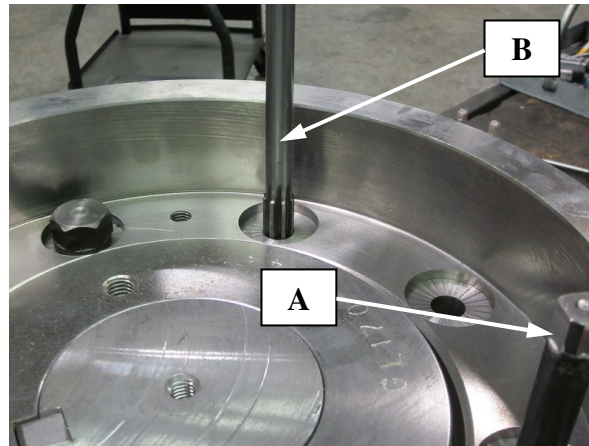


Figure 4

- Clean out holes after reaming with burst of compressed air.
- After all the mounting holes have been reamed (excluding the hole with the guide pin "A"), install all of the sheave body bolts "B." Tighten the bolts using an impact driver. Refer to Figure 5.

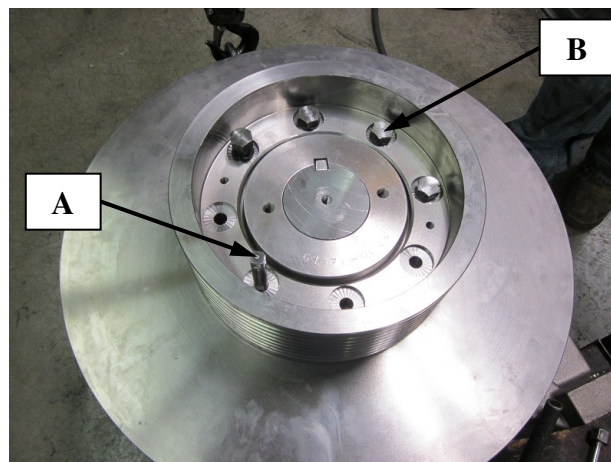


Figure 5

- Once the sheave is secured to the machine, re-install the machine following Section III - "Installation."
- Re-install the sheave guard. Refer to Figure 1.



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II. Handling

- Machine must be moved by using the hoisting eyebolts provided at the top of the machine.

Machine Weight		
Model	Weight (in lbs)	Weight (in kg)
GL100	1340	608
GL115	1380	626
GL130	1450	658
GL170	1600	726

Table 1

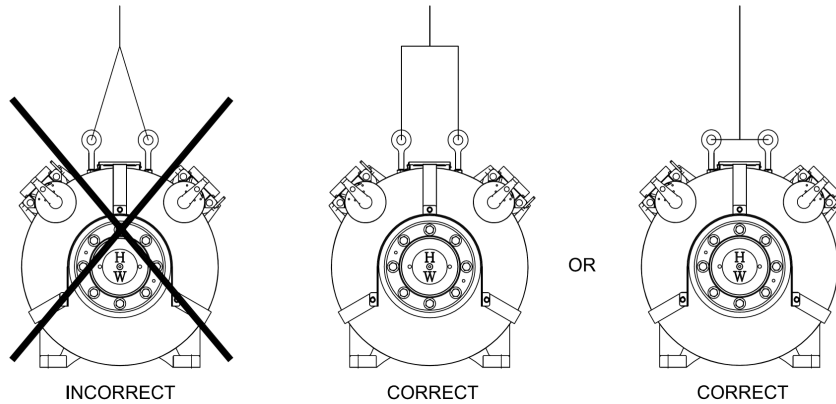


Figure 6

- When hoisting the machine, pull straight up on the hoisting eyebolts using a spreader beam or other suitable rigging apparatus to prevent damage to the eyebolts and possible failure which could result in dropping the machine. Refer to Figure 6 for the proper hoisting methods and Table 1 for the machine weights.



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- Follow all the necessary safety precautions to avoid damage to the machine or risk to personnel when moving the machine.

III. Installation

a. Machine Install & Electrical Connections

- Before hoisting the machine into place, verify all the hoisting equipment is rated for the weight of the machine. Refer to Table 1.
- Replace machine and attach to frame work in reverse order as removed.
- Reinstall all machine wiring in the opposite order as it was removed.
- If encoder was disconnected or removed, reinstall and connect encoder wire.



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b. Startup

- Verify machine data tag matches all the motor related settings and brake parameters. See Figure 9.
- Remove any dirt, grease or rust that may have accumulated on the brake rotor. Use fine sandpaper or emery cloth with light pressure to remove rust from the rotor, taking care to keep the rust and metal dust out of the machine.
- Follow the controller manufacturer's procedure for alignment of the magnets.
- Briefly run the machine to verify the machine functionality and brake operation.
- Verify the traction sheave is plumb and aligned with the rope drop locations.
- Install the hoist ropes, adjust the rope shackles and check the ropes for equal tension. The rope tension must be uniform or it may cause vibration and premature wear on the traction sheave and hoist ropes.
- Re-verify the traction sheave is plumb once the machine is fully loaded.



PM-AC GEARLESS ELEVATOR MACHINE			
MODEL:	GL100-15H	SER. NO:	304934
HP:	3.9	HZ:	8.9
VOLTS:	180	AMPS:	11.6
RPM:	38.2	POLES:	28
DUTY:	60 MIN	INSUL. CLASS:	F
AMB:	40C / 104F	MACH. WT.:	1340
SPEED:	100 FPM	CAPACITY:	2000
TORQUE:	536 FT/LB	SUSPENSION:	2-1
BRAKE PICK:	103.5 VDC	BRAKE PICK:	1.7 A
BRAKE HOLD:	52 VDC	BRAKE HOLD:	0.86 A
 HOLLISTER-WHITNEY ELEVATOR CORP.			
MADE IN USA			

Figure 9 – Sample Machine Data Tag