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**SIGNALITE AND HDe PATIENT TRANSPORT
TROUBLE SHOOTING GUIDE.**

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GE Medical Systems – MR engineering Bangalore - India		5195854	SNT	A4	Page 1 of 18
					Rev 3

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Rev	Date	Author	Change	Description
1	23/01/2004	Narendar.v	-	Rev 1 Release.
2	30/30/2005	Narendar.v	-	Updated
3	13/11/2006	Kiran Kumar	Revised	HDe table added, sections updated & New part number added

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This section provides a quick guide to identify problems, and the procedures to solve it. Here references have been made to specific sections of the installation manual and the service methods manual, the concerned FE has to refer to these sections and follow the detailed procedures for settings or replacements.

Note: for procedure of lifting bellows and strapping it, please refer to **Section 3** of Service methods manual (Doc no 2377126).

Below is the list of general symptoms and the probable causes with recommended solution.

1. TABLE NOT MOVING UP

Possible causes:

- Oil not present,
- Pump linkage may be disconnected or damaged,
- Filter may be clogged,
- Down valve may be open on the hydraulic cylinder. (Check position of valve lever)

Checks and solution:

- Lift bellows and visually check for oil leakage, and reservoir oil level, refer to illustration 1 for location of reservoir. If oil level is low fill oil upto the required level refer to installation manual (Doc no.2377125) **Section 12**, for procedure.
- Visually check the pump linkage connectivity. Refer to illustration 1 for location of pump linkage.
- If oil is present upto the specified level and there is no leakage, then check whether the down valve is open, on the cylinder, it will be open if cable is excessively tight, refer to illustration 2 below

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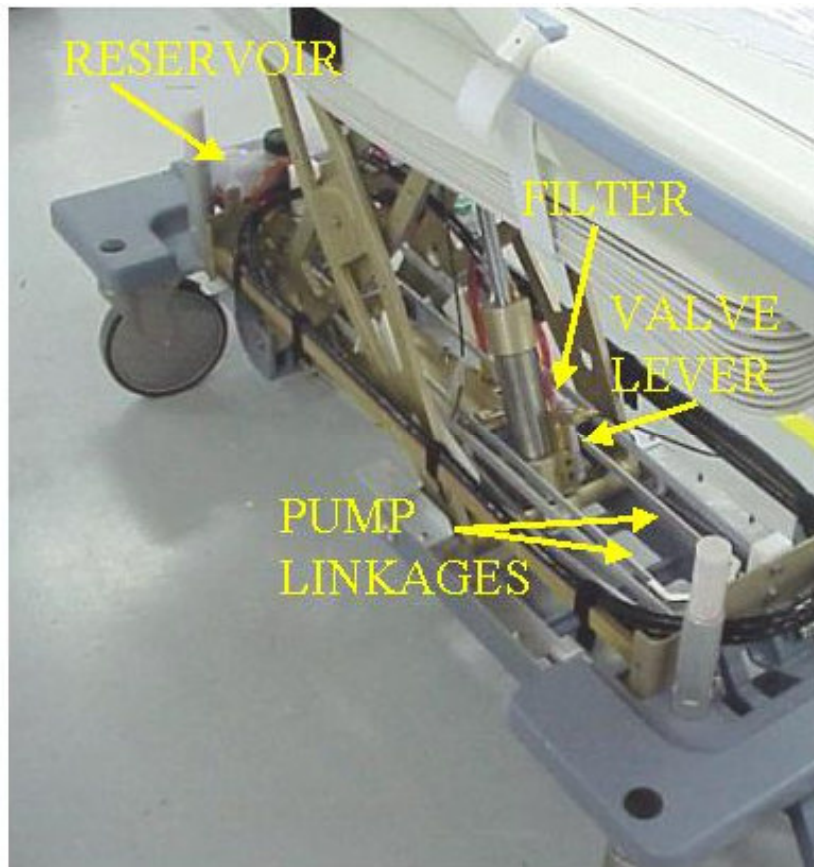


TABLE OVER ALL VIEW.

ILLUSTRATION 1

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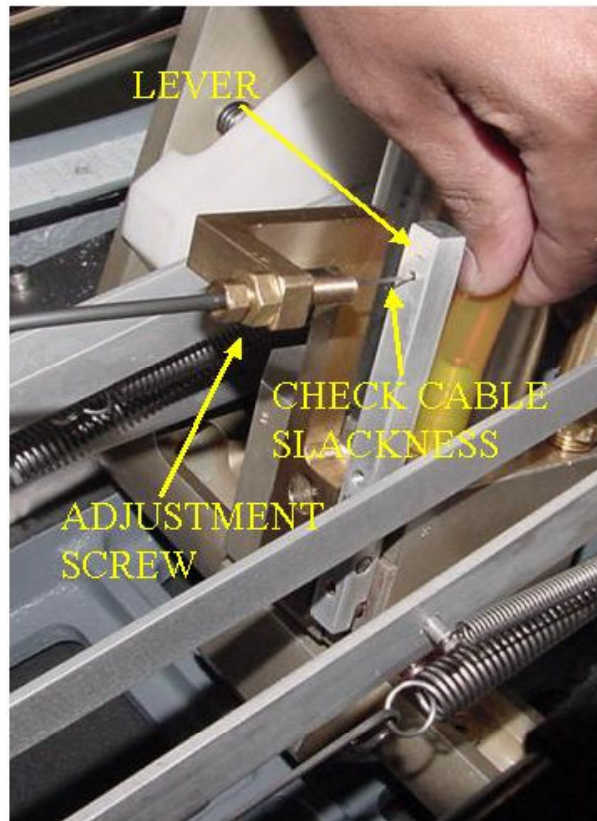


ILLUSTRATION 2

- Here check by loosening the adjustment screw and check by making the cable loose use gage to set it. Refer to installation manual (Doc no.2377125) **Section 14**. If it ok then check for clogged filter, on the hydraulic hose refer to illustration 1 for location of filter. For procedure of removing the filter and replacing a clogged filter, refer to **Section15** of Service methods manual (Doc no 2377126)
- Also if the above is ok and problem persists, then plug the pump outlet and connect a pressure gauge to the tap off point on the pump, and pedal a few strokes and check weather the pump is developing pressure, observe for leakages ect if there is no pressure being developed the replace the pump refer to **Section 8** of Service methods manual (Doc no 2377126) for procedure.

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- If all the above symptoms are not present, then remove cylinder and check whether it is working properly. If cylinder is having defect replace it. Refer to **Section 7** of Service methods manual (Doc no 2377126).

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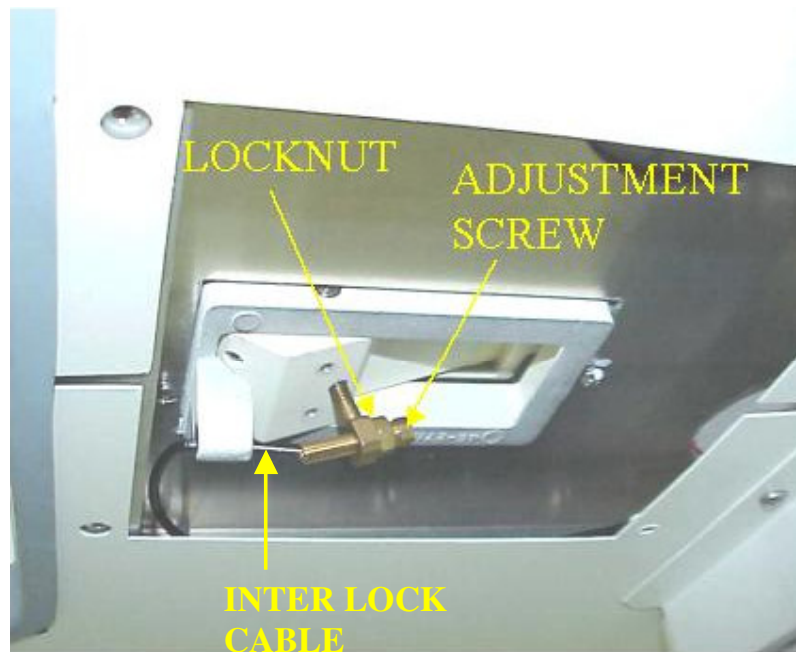
2. TABLE NOT MOVING DOWN WHEN DOWN PEDAL IS PRESSED.

Possible Causes:

- Linkages may be disconnected.
- Cradle interlock cable has slackness or may be cut,
- Down release cable may have slackness or may be cut.

Checks and solution:

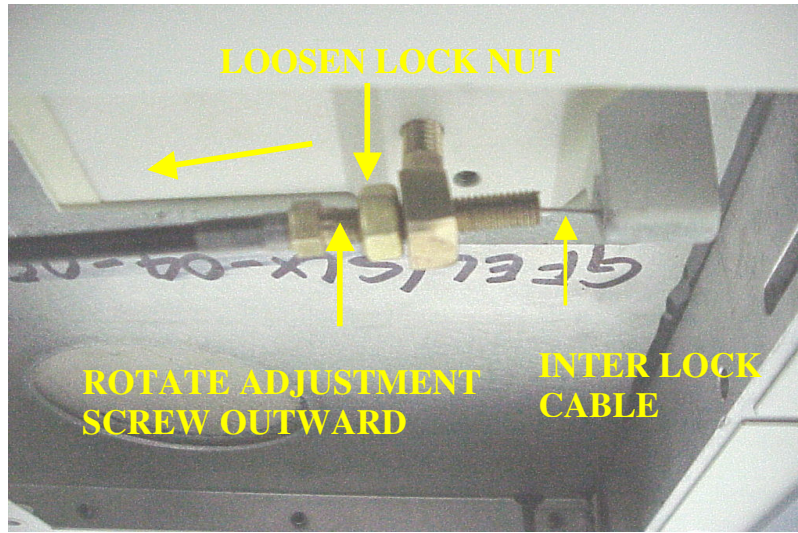
- Lift bellows and visually check whether any linkages are disconnected, if every thing is ok then check the cradle interlock cable, refer to **Section 13** of Service methods manual (Doc no 2377126), for procedure of replacing /setting the flipper cable. Refer to illustration 3. If interlock cable is ok then check the down release cable, refer to **Section 14** of installation manual (Doc no.2377125), for procedure of setting the down release cable. Refer to illustration 3B for location of down release cable.



FLIPPER CABLE SETTING

ILLUSTRATION 3

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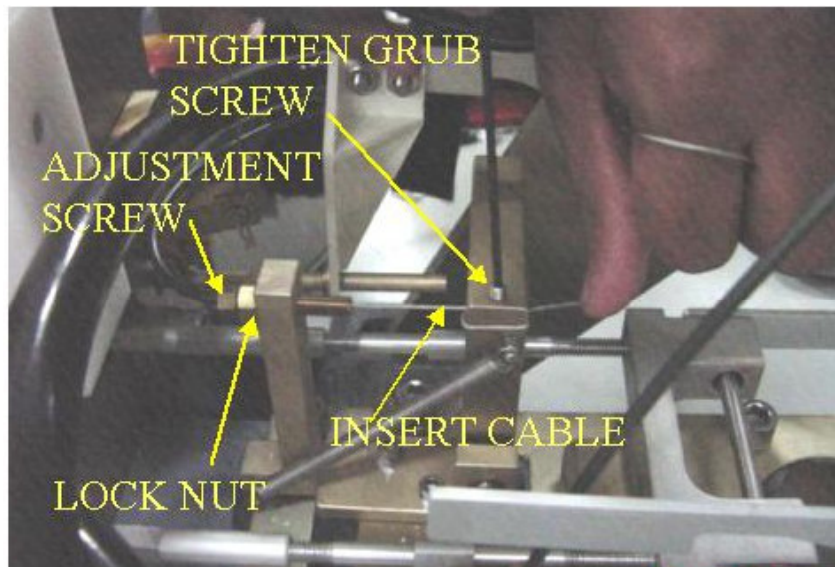


FLIPPER CABLE SETTING

ILLUSTRATION 3A

Note:

**Illustration 3 is applicable for tables prior to execution of FMI - 60719J
Refer illustration 3A For Table Serial starting from HDe Table Serial no:
20521WH1&Signalite Serial No: 20477WH6 and after execution of FMI - 60719J**



DOWN RELEASE CABLE SETTING

ILLUSTRATION 3B

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3. TABLE NOT GETTING DOCKED / TABLE UNDOCKING WHEN MOVING UP

Possible Causes:

- Linkages could be stuck/jammed
- Caster height not set.
- Dock pedal stroke adjustment not correct. Dock hook not aligned, or could be loosened

Checks and solution:

- Check visually for any jammed linkages
- Check the levelness of the table and if not level, set it as per instructions of **Section 3** of installation manual (Doc no.2377125).
- Visually check the linkages for free movement (the dock and undock linkages)
- If the table is leveled, then check the dock alignment; refer to **Section 4** of installation manual (Doc no.2377125) for procedure. If the above is ok then check the dock pedal stroke adjustment. Refer to **Section 4,5,11** of installation manual (Doc no.2377125), for procedure of setting the dock hook and dock pedal stroke.

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4. TABLE NOT UNDOCKING.

Possible Causes:

- Interlock cable having slackness or may be cut
Refer to illustration 3 and 3A for location of Interlock cable.
- Dock Hook Length adjustment could be short.

Checks and solution:

- Lift the bellow and visually examine the Flipper cable if has slackness or if it is cut, set it as per instructions of **Section 13** of Service methods manual (Doc no 2377126).
- Adjust dock hook length as per **Section 4** of installation manual (Doc no.2377125),

5. DIFFICULTY IN TABLE FORWARD/BACKWARD MOTION.

Possible causes:

- Caster wheel locked / or caster failure.
Refer to illustration 1 for location of casters

Checks and solution:

- Visually check the caster lock and also see if anything is entangled in wheels, replace, if damaged refer to **Section 9** of Service methods manual (Doc no 2377126). For procedure of replacing and setting castor height

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6. TABLE STEERING DIFFICULT

Possible Causes:

- Steering castor/lock failure.

Checks and solution:

- Visually check for damage or any entanglement , and replace castor refer **Section 9** of Service methods manual (Doc no 2377126).

7. CRADLE NOT ENTERING MAGNET BORE

Possible Causes:

- Table height not set properly,
- Rod cap gap on cradle not set.

Checks and solution:

- Confirm the table height is in level with the magnet. Also confirm whether the cradle is getting unlocked from the table itself, set the table height as per **Section 6** of installation manual (Doc no.2377125).
- Confirm is the cradle center pin at middle of the table is not projecting out from table surface, if projecting refer to **Section 12** of service methods manual.

8. DOG HOUSE (LPCA) NOT MOVING OUT TO DRAG THE CRADLE INSIDE THE MAGNET BORE

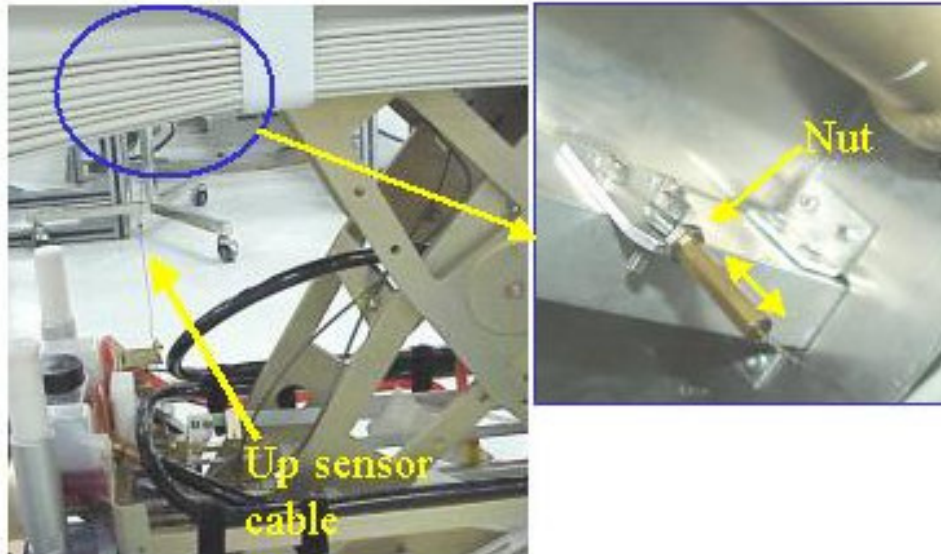
Possible Causes:

- No Signal from the upsensor pin.
- Dock centering not correct.
- Secondary latch actuating cable may have slackness or may be cut. Refer to illustration 4 for location of upsensor cable.

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Checks and solution:

- Lift bellows and visually check the upsensor cable for slackness refer **Section 6-2** of installation manual (Doc no.2377125) for setting it, or if it is cut replace it. Refer to **Section 11** of Service methods manual (Doc no 2377126).

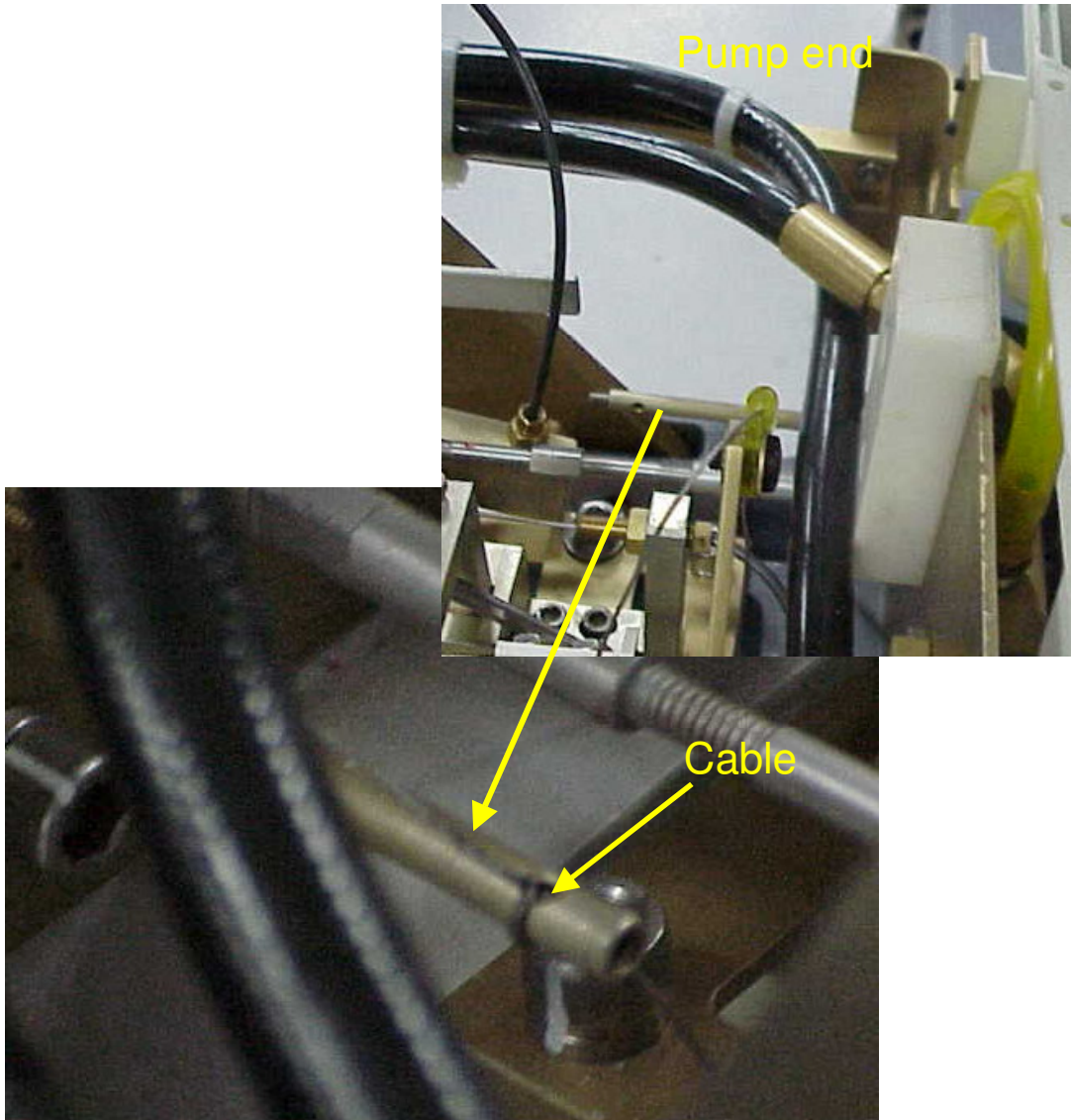


UPSENSOR CABLE

ILLUSTRATION 4

- For dock centering/longitudinal/lateral/ adjustment refer to **Section 5** of installation manual (Doc no.2377125)
- Visually check the Cradle pin cable. Refer to illustration 4A for location of Secondary latch actuating cable. Refer to **Section 10** of Installation manual (Doc no.2377125).

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**SECONDARY LATCH ACTUATING CABLE
ILLUSTRATION 4A**

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9. LATERAL PLAY WHILE CRADLE MOVES ON THE TABLE/ CRADLE NOT MOVING LINEARLY. / PLAY IN CRADLE EVEN WHEN IN LOCKED/HOME POSITION.

Possible Causes:

- Cradle guide rail not adjusted properly.

Checks and solution:

- Refer to **Section 8** of installation manual (Doc no.2377125) to align the cradle guide rail.

10. CRADLE NOT MOVING OUT OF TABLE

Possible Causes:

- Cradle release block misalignment.
- Primary Cradle latch cable may have slackness or is cut.
- Secondary cradle latch cable has slackness or is cut.

Checks and solution:

- Visually check the alignment of the cradle release block, refer to **Section 7** of installation manual (Doc no.2377125).
- If release block is aligned already ,then lift bellows and examine the cradle release cable for slackness, refer to **Section 7** of installation manual (Doc no.2377125). If it is cut refer to **Section 14** of Service methods manual (Doc no 2377126).
- The cradle release pin cable for slackness or check if it is cut, refer to **Section 12** of Service methods manual (Doc no 2377126), for procedure of replacing / setting the cable.
- Refer to installation manual **Section 16** for procedure of setting the cradle side lock.

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11. TABLE CAN BE BROUGHT DOWN / OR UNDOCKED WHEN CRADLE IS INSIDE BORE.

Possible Causes:

- Interlock cable cut or has slackness.

Checks and solution:

- Lift bellows and check the interlock cable, refer to **Section 13** of Service methods manual (Doc no 2377126), for setting it.

12. EXCESSIVE FORCE REQUIRED TO PUMP TABLE UP.

Possible Causes:

- Spring booster failure.
- Filter clogging in hose.

Checks and solution:

- Visually inspect the spring boosters/springs, if it is damaged or has spring failure then replace the spring booster assembly, refer to **Section 20** of Service methods manual (Doc no 2377126), if spring boosters is not having any problem proceed to next step below.
- Check for filter clogging in hose, refer to **Section 15** of Service methods manual (Doc no 2377126), for procedure of replacing the filter.

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13. TABLE TAKES LONGER TIME TO MOVE DOWN WHEN DOWN PEDAL IS PRESSED / CANNOT DOWN FROM DOCK SIDE.

Possible Causes:

- Slackness in down release cable.
- Grub screw may be damaged/ cable may not be inserted fully in adjustment screw.
- If the table takes longer to go down when operated from dock end then check whether washer has been added on down rod. Refer to installation manual (Doc no.2377125) **Section 15** “down rod gap adjustment.”

Refer illustration 4B for position of cable and grub screw.

Checks and solution:

- Use gage to set cable slackness. Refer Installation manual (Doc no.2377125) **Section 14**.
- Also check whether grub screw is holding the cable properly, after setting cable pull it manually to check if it is slipping. (IT SHOULD NOT SLIP).

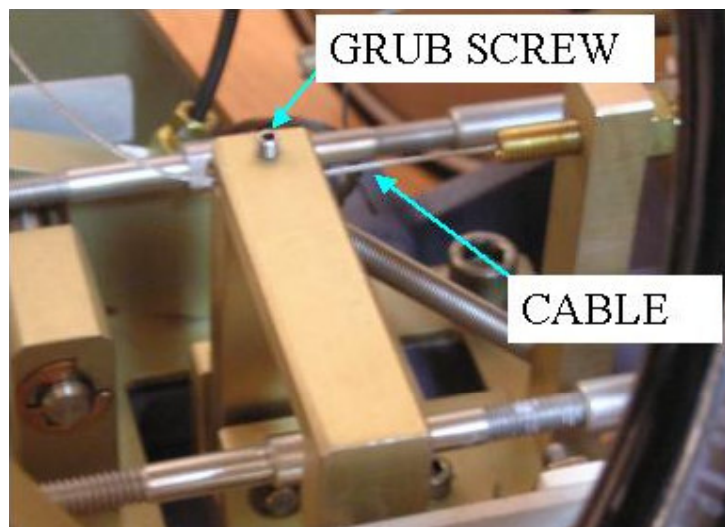


ILLUSTRATION 4B

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14. SHARP NOISE EVERYTIME THE PUMP PEDAL IS OPERATED.

Possible Causes:

- Bumper failure/ not present.

Checks and solution:

- Visually check and replace the rubber bumper. Refer Illustration 5.

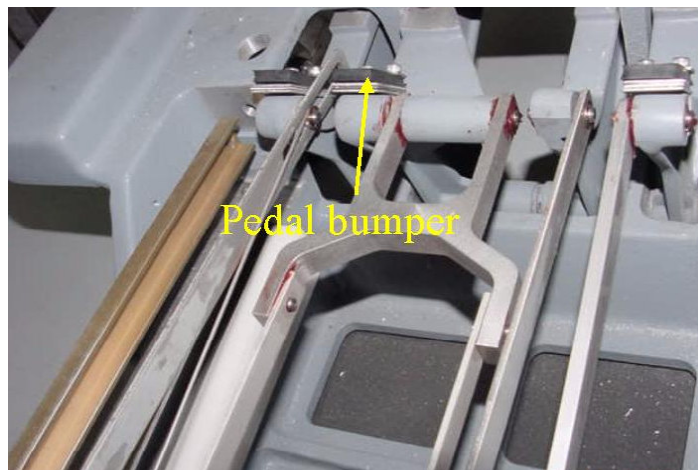


ILLUSTRATION 5

15. TABLE COMING DOWN SPONTANEOUSLY

Possible Causes:

- Down release cable may be too tight.
- Check valve failure cylinder.

Checks and solution:

- Refer to illustration 2 for location of down release cable. Here check by loosening the adjustment screw by one turn refer installation manual (Doc no.2377125) **Section 14**.
- If even after loosening the cable the table moves down spontaneously then check the hydraulic cylinder down valve. Replace cylinder. Refer **Section 7**, Service methods manual (Doc no 2377126).