

J. H. FLETCHER & CO. Box 2187 – Huntington, WV 25722-2187 – 304/525-7811 – FAX 304/525-4025

## IMPORTANT SAFETY NOTICE

INFORMATION BULLETIN NO. 119

**TO: OWNERS OF FLETCHER® DDR WALK-THRU MACHINES WITH INSIDE CONTROLS USING WORM GEAR DRIVES ONLY**

**FROM: RISK MANAGEMENT DEPARTMENT**

**DATE: JUNE 2012**

**SUBJECT: WORM GEAR TILT BOX**

J.H. Fletcher & Co. (Fletcher) has identified a potential risk on DDR walk-thru machines with mast tilt using worm gear tilt boxes. The boxes, which are located on specific machines, provide the operator the ability to tilt the mast to different angles for drilling the roof and ribs. During a routine drilling process an operator had the mast tilted when the tilt box suddenly gave way. The mast rotated freely inward, narrowly missing the operator, who was standing at his work station.

As a result of this incident Fletcher has performed an engineering analysis on the tilt box. No external force that would result in the failure of the tilt box was found, but bolts holding the worm gear in place had loosened. In an effort to prevent this incident from occurring again, Fletcher has designed a tilt box stop that can be placed on the specific machines (see Attachment 1). The tilt box stop will limit the tilt box travel due to a mechanical failure, such as loose worm gear bolts.

The tilt box stop is only used in the direction of the operator where total travel inward is less than 5° from vertical.

Fletcher is requesting customers that have machines equipped with tilt box assemblies do the following:

1. Inform your operators and maintenance personnel that machines with tilt boxes should be inspected weekly. Fletcher has designed an inspection procedure for the maintenance personnel to follow during weekly inspections (see Attachment 2). All owners of Fletcher equipment designed with worm gear tilt boxes should have this test performed weekly. Make sure if operators and/or maintenance personnel see a problem with a tilt box they notify a supervisor of the problem.



and that the problem is fixed immediately to prevent injury or loss of production.

2. If you have a Fletcher machine with a worm gear tilt box, please order the FREE tilt box stop for each boom you have (part number:423906) . The kit will include instructions on how to weld the stop on the machine (see Attachment 2) and how to check the box weekly (see Attachment 2). Call Fletcher's Service Department to order the free stop. You will be asked to provide the name of your company, the shipping address and a serial number of all machines for which you need the kit.
3. Replace the drawing you have in your service manual with a new one. This drawing will show the stop on the gear drive. (see Attachment 3)

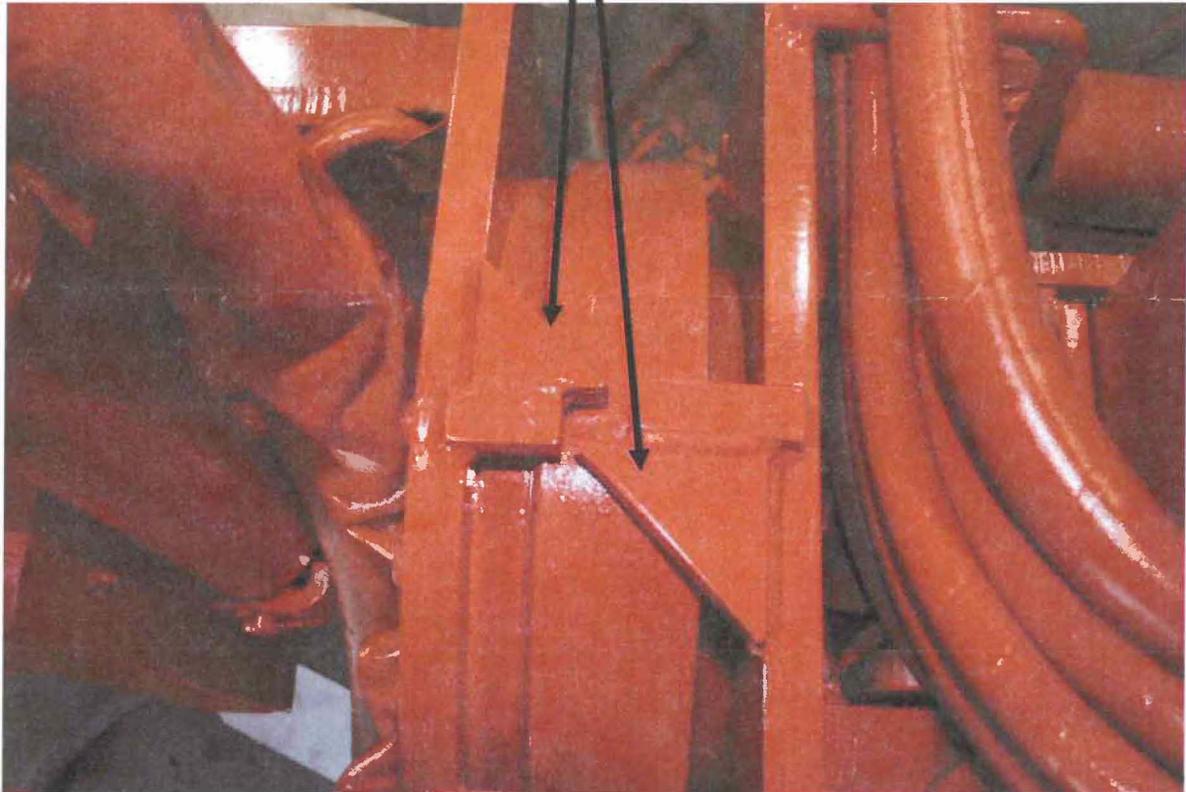
**THIS NOTICE ONLY AFFECTS OWNERS OF MACHINES THAT ARE EQUIPPED  
WITH TILT BOXES**

Fletcher strongly recommends this free retrofit be completed for all machines with worm gear drives affected by this notice. The inspection of this gear drive should be required of maintenance personnel on a weekly basis.

If, at one time you owned one of these machines but you no longer own one, we request that you provide us the name and address of the current owner and /or the owner to who you transferred/sold the machine (see Attachment 4). Fletcher appreciates your effort in complying with this notice.

If you have any questions, please do not hesitate to contact David Cooper, Risk Management Department, at (304) 525-7811, or [dcooper@jhletcher.com](mailto:dcooper@jhletcher.com).

TILT BOX STOP



## INSPECTION PROCEDURES FOR TORQUEING MOUNTING BOLTS ON WORM GEAR DRIVE

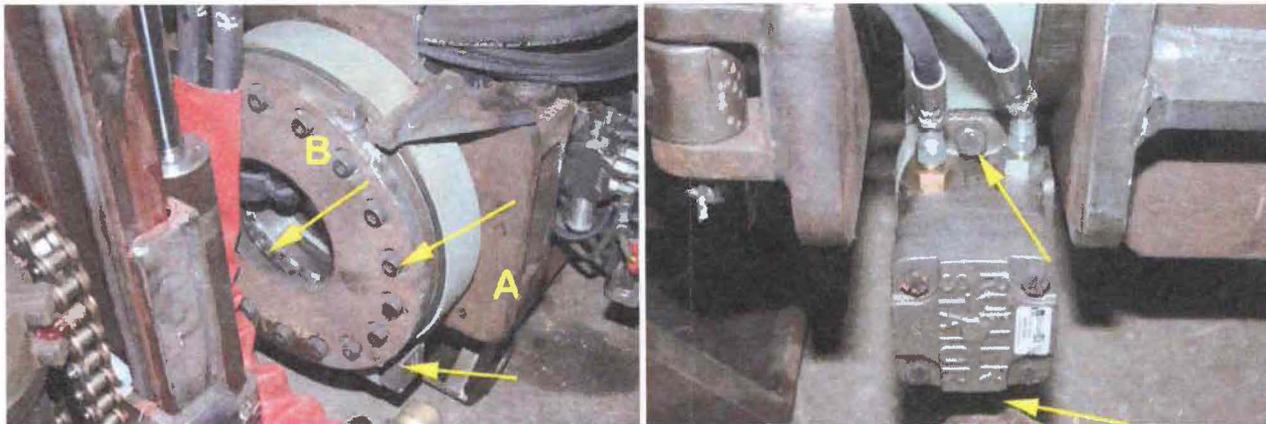
### MOUNTING BOLTS AND WORM DRIVE BOLTS

To compensate for possible settling, it is necessary to retighten the bolts to the prescribed torque (see chart on next page). Outside bolts should be checked weekly (12 shifts) during operation. Inside bolts (see B in photo below) should be visually checked on a daily basis.

To check the bolts on the worm gear drive, follow these instructions:

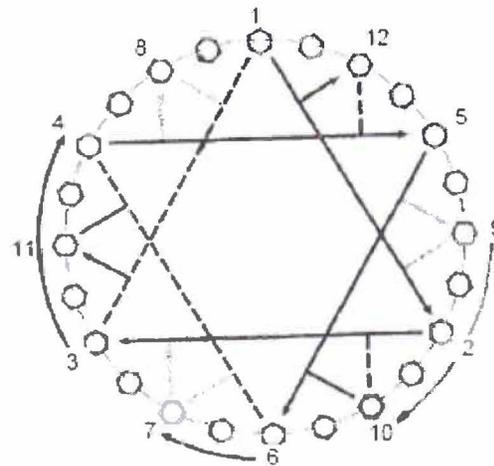
1. Place the machine on a level surface;
2. Turn machine off;
3. Begin by tightening the bolts in a star torque procedure (see illustration on next page);
4. Tighten all the bolts to specified foot pounds (see chart) according to bolt size;
5. If bolts do not torque – replace bolt and washers with new ones (see parts book for correct part number for washer and bolt);
6. Turn machine on and rotate worm gear drive fully in both directions, to ensure it is operating properly, and;  
(Note: Make sure stop is in place)
7. Release machine for production.

**NOTE: THE WORM GEAR TILT BOX ON YOUR MACHINE MAY BE DIFFERENT THAN THE ONES SHOWN IN THESE PHOTOGRAPHS. CONSULT YOUR PARTS BOOK FOR THE LOCATION OF THE BOLTS ON YOUR TILT BOX. IF YOU HAVE ANY QUESTIONS, PLEASE DO NOT HESITATE TO CALL.**



**BOLTS TO BE TIGHTENED ON WORM GEAR TILT BOX**

**NOTE:**  
 WHEN INSTALLING NEW BOLTS, TIGHTEN TO 50 lb<sub>r</sub>-ft FOLLOWING THE STAR TORQUE SEQUENCE. THEN, USING THE STAR TORQUE SEQUENCE, TIGHTEN TO THE PROPER TORQUE (SEE TABLE). THE TORQUE SHOULD BE CHECKED AFTER THE FIRST 2 SHIFTS OF OPERATION AND EVERY 10 SHIFTS AFTER THAT.



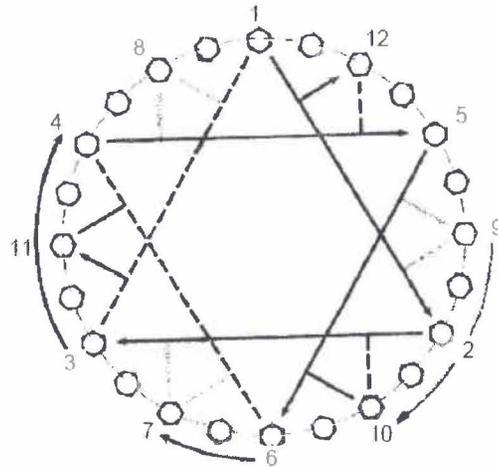
**NOTE:** USE A STAR SHAPED TIGHTENING SEQUENCE WHEN TIGHTENING BOLTS.

**NOTE:**  
 MAKE SURE THE TURNABLE BOLTS ARE PROPERLY TORQUED (SEE TABLE).  
 MAKE SURE TURNABLE IS PROPERLY GREASED (SEE LUBRICATION DIAGRAM).  
 PROPER MAINTENANCE WILL REDUCE THE CHANCE OF INJURY OR EQUIPMENT DAMAGE.  
 TORQUE VALUES ARE FOR DRY THREADS. IF THREADS ARE LUBRICATED, TIGHTENING TORQUES SHOULD BE REDUCED BY APPROXIMATELY 25%.

				
		Note: Torques are in lb <sub>r</sub> -ft		
Cap Screw Size		Grade 6 Hex Cap Screw	Grade 8 Hex Cap Screw	Socket Head Cap Screw
Coarse Threaded Fasteners	1/4 - 20	10	14	14
	3/8 - 16	35	50	50
	1/2 - 13	90	125	125
	5/8 - 11	175	240	40
	3/4 - 10	310	430	430
	7/8 - 9	500	700	700
	1 - 8	740	1050	1050
	1 1/8 - 7	890	1320	1320
	1 1/4 - 7	1300	1845	1845
1 1/2 - 6	2270	3222	3222	
Fine Threaded Fasteners	1/4 - 28	11	15	15
	3/8 - 24	40	60	60
	1/2 - 20	100	140	140
	5/8 - 18	200	290	280
	3/4 - 16	340	480	480
	7/8 - 14	500	770	770
	1 - 14	810	1150	1150
	1 1/8 - 12	1040	1477	1477
1 1/4 - 12	1440	2045	2045	
1 1/2 - 12	2000	3621	3621	

SHEET NO.	TITLE	REV.	 <a href="http://www.fletcher.com">www.fletcher.com</a>
	TURNABLE MAINTENANCE & TORQUE		

# SAE GUIDE



**NOTE:**  
USE A STAR SHAPED TIGHTENING SEQUENCE WHEN TIGHTENING BOLTS.

**NOTE:**  
WHEN INSTALLING NEW BOLTS, TIGHTEN TO 70 N-m FOLLOWING THE STAR TORQUE SEQUENCE. THEN TIGHTEN TO THE PROPER TORQUE (SEE TABLE) USING THE STAR TORQUE SEQUENCE. THE TORQUE SHOULD BE CHECKED AFTER THE FIRST 2 SHIFTS OF OPERATION AND EVERY 10 SHIFTS AFTER THAT.

**NOTE: Torque values or in N-m.**

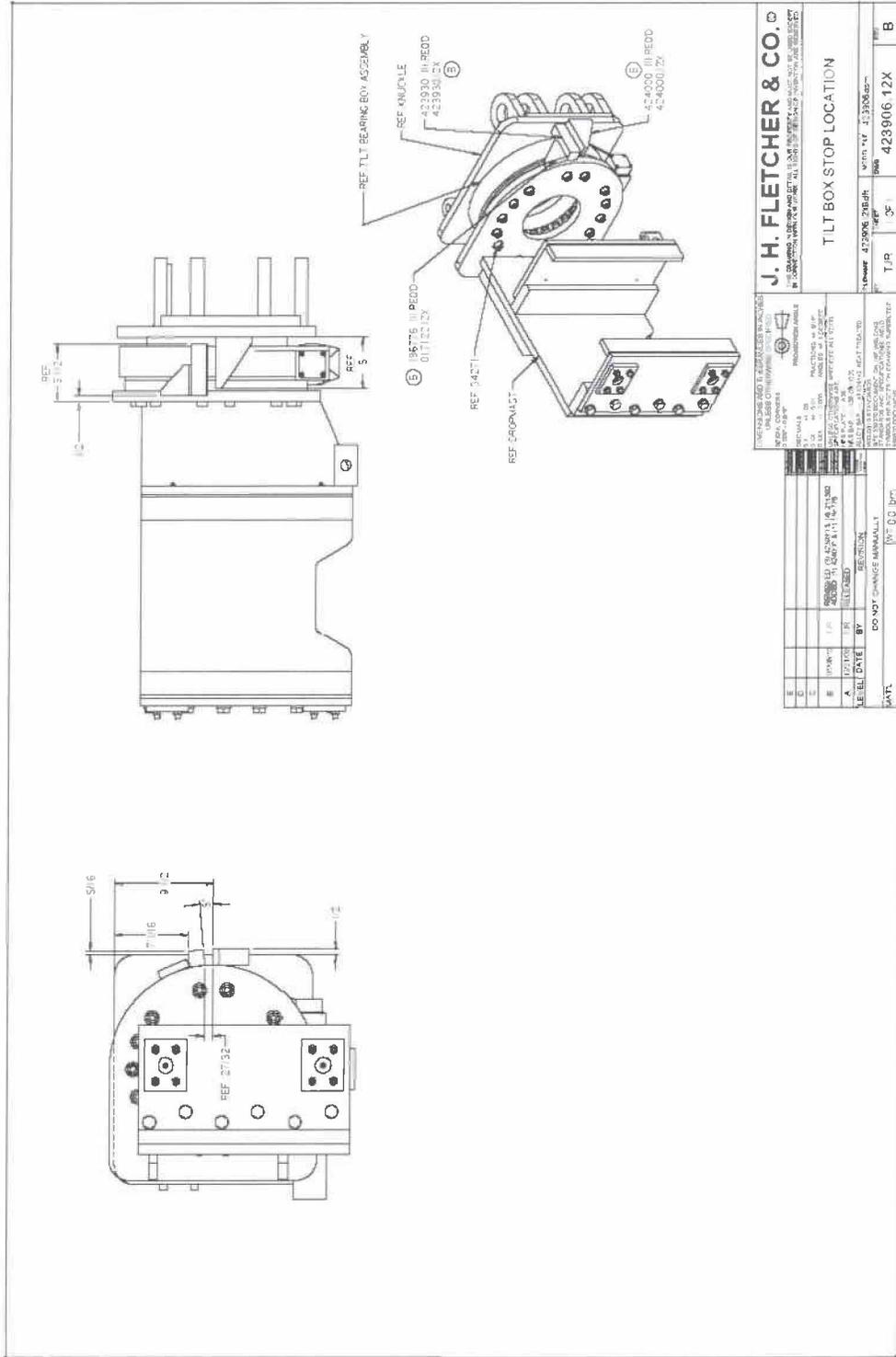
Diameter	Grade 8.8	Grade 9.8	Grade 10.9	Grade 12.9
M4	2.4	2.6	4.5	4.6
M5	5	5.4	8.5	9.5
M6	8.5	9.1	14.5	16
M8	20.7	22.2	35	39
M12	72	77	120	135
M14	114	123	195	215
M16	175	198	300	330
M20	345	370	575	650
M24	583	627	930	1100
M30	1192	1282	2030	2250

**NOTE:**  
MAKE SURE THE TURNTABLE BOLTS ARE PROPERLY TORQUED (SEE TABLE)  
MAKE SURE TURNTABLE IS PROPERLY GREASED (SEE LUBRICATION DIAGRAM).  
PROPER MAINTENANCE WILL REDUCE THE CHANCE OF INJURY OR EQUIPMENT DAMAGE.  
TORQUE VALUES ARE FOR DRY THREADS. IF THREADS ARE LUBRICATED, TIGHTENING TORQUES SHOULD BE REDUCED BY APPROXIMATELY 25%.

<b>SHEET NO.</b>	<b>TITLE</b> TURNTABLE MAINTENANCE & TORQUE	<b>REV.</b>	 <a href="http://www.ihfletcher.com">www.ihfletcher.com</a>
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# METRIC GUIDE

DRAWING OF NEW TILT BOX WITH STOP



<p>INCORPORATED TILT BOXES ANALYSIS                  REF: 423930 (H) RECD                  017132 (X)</p>		<p><b>J. H. FLETCHER &amp; CO. ©</b>                  TILT BOX STOP LOCATION</p>	
<p>DATE: 10/11/00                  BY: [Signature]                  REVISION: 1</p>		<p>DATE: 10/11/00                  BY: [Signature]                  REVISION: 1</p>	
<p>DO NOT CHANGE MANUALLY                  (W/ O.D. IMP.)</p>		<p>DATE: 10/11/00                  BY: [Signature]                  REVISION: 1</p>	

INFORMATION BULLETIN 119  
JUNE 2012

## INACTIVE EQUIPMENT DISPOSITION FORM

### SOLD OR TRANSFERRED EQUIPMENT:

MODEL: \_\_\_\_\_ OWNER: \_\_\_\_\_  
SERIAL NO: \_\_\_\_\_ ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

PHONE NO: \_\_\_\_\_ TRANSACTION DATE: \_\_\_\_\_

MODEL: \_\_\_\_\_ OWNER: \_\_\_\_\_  
SERIAL NO: \_\_\_\_\_ ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

PHONE NO: \_\_\_\_\_ TRANSACTION DATE: \_\_\_\_\_

### EQUIPMENT THAT IS PERMANENTLY OUT-OF-SERVICE:

MODEL: \_\_\_\_\_ MODEL: \_\_\_\_\_  
SERIAL NO: \_\_\_\_\_ SERIAL NO: \_\_\_\_\_

MODEL: \_\_\_\_\_ MODEL: \_\_\_\_\_  
SERIAL NO: \_\_\_\_\_ SERIAL NO: \_\_\_\_\_

MODEL: \_\_\_\_\_ MODEL: \_\_\_\_\_  
SERIAL NO: \_\_\_\_\_ SERIAL NO: \_\_\_\_\_

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### COMMENT:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_

Authorized Representative

Please return to: J. H. FLETCHER & CO.  
ATTN: RISK MANAGEMENT DEPT.  
402 HIGH STREET  
HUNTINGTON WV 25705