



PRODUCT: 1250AC TOP DRIVE

DATE: 11/15/2007

SUBJECT: Proper shimming of guide runners on the "F" style rigs with 500 Ton Ac Top Drives

SERIAL NUMBERS: 317, 332, 335, 338, 346, 352, 355, 356, 372, 384, 385, 387, 396, 398, 405, 406, 407, 408, 409, 418, 422, 423, 433, 439, 442, 461, 471, 513, 544, 549, 555, 558, 570

DISCUSSION: There have been some instances where the top drive has had a sloppy fit in the mast due to variations of the width of the guide rails in the mast. If not properly shimmed the top drive could be allowed to crab in the mast or have inadequate runner contact to the rails, causing premature wear of the runners or the runners may become disengaged.

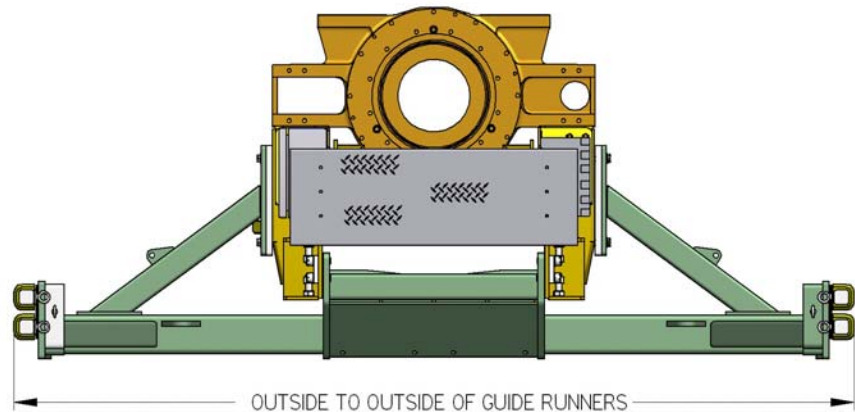
RECOMMENDATION: The recommended gap between the guide rail and the runner is between 1/8" and 3/16". To achieve this on the F-Rigs we have created a kit to shim the guide runner frames out to the narrowest point in the mast rails. NOTE: All items below refer to Assembly Drawing AY12949 Rev E. Attached

PROCEDURE

1. Measure the width of the mast inside to inside of the guide rails, as shown in the picture, every 10 to 15 ft of the mast. Determine the narrowest distance between the rails on the mast.



2. Measure the outside to outside distance of the guide runners on the top drive. For proper adjustment side to side of the top drive in the mast there should be 1/8" to 3/16" gap between the guide runners on the top drive and the narrowest point in the mast.



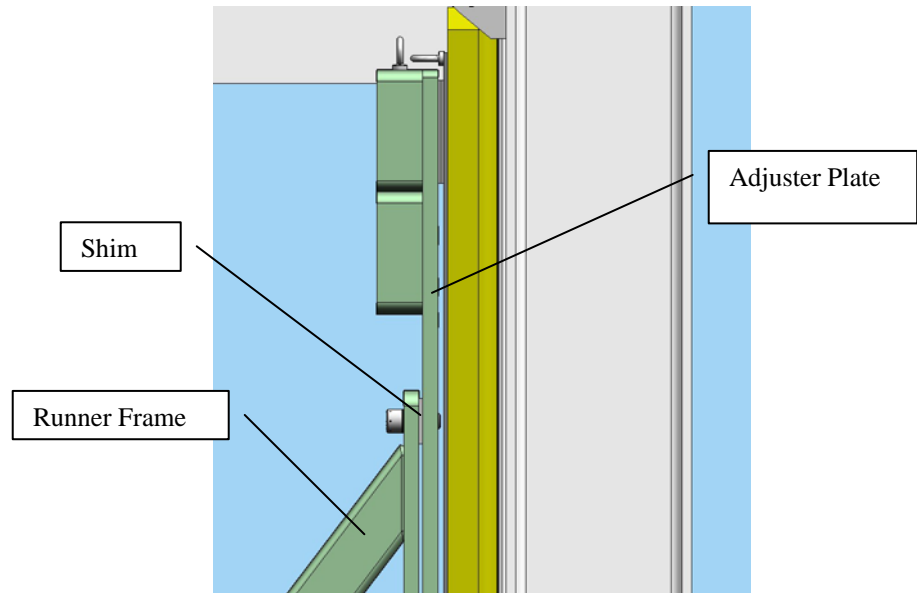
3. The existing top drives in the field should already have at least 1/4" of shim behind each runner. This should stay as is on the top drive with no less than the 1/4" of shim installed.
4. To determine how much shim you will need, subtract the outside to outside distance of the guide runners on the top drive from the narrowest inside to inside measurement on the guide rails. Subtract 1/8" from this number and this is how much shim that will need to be added between items 15, 17 and item 06. The shims, items 36A, 36B and 36C, come in 1/2, 1/4 and 1/8 widths. (See attached drawing AY12949 to locate items)

Formula: Total thickness of shims = Narrowest Inside to inside of guide rails on mast – outside to outside of guide runners on TD – 1/8"

Example: Total thickness of shims = 131" – 130 1/4" – 1/8" = 5/8"

Therefore you would use 1/4" shim on each side and add an extra 1/8" shim to one side.

5. Loosen the bolts between the guide frame (item 06) and the runner plate (items 15 and 17) on one side of the top drive to open a gap between the 2 plates. Remove one pair of bolts at a time and insert the shim (item 36) and replace the bolts with longer ones and add Nord-lock washers. Replace the bolts with ones that extend through item 15 and 17 by no more than $\frac{1}{4}$ ". See calculation in step 4. Use half the shim on each side. Repeat this process for all 4 sets of bolts on one side. Once the shim is added to one side, torque all the 1" bolts to 1018 ft-lb. (Torque values shown have already been increased by 20% for the Nord-lock washers.)



6. This shim needs to be added equally to the top and bottom adjusters. If the stump is not centered side to side between the rails, the shims can be transferred from one side to the other side to account for this misalignment. Move same amount of shim top and bottom.

A new kit AY14553 was created to include all required shims, bolts and Nord-lock washers. See Attached.

Contact Canrig Field Service to schedule inspection and replacement.

For a complete list of all bulletins go to www.canrig.com

For further information contact:

Field Operations Manager
Canrig Drilling Technology Ltd.
14703 FM 1488
Magnolia, Texas 77354
Phone: 281.259.8887 Fax: 281.259.8158



Engineering Bill of Material

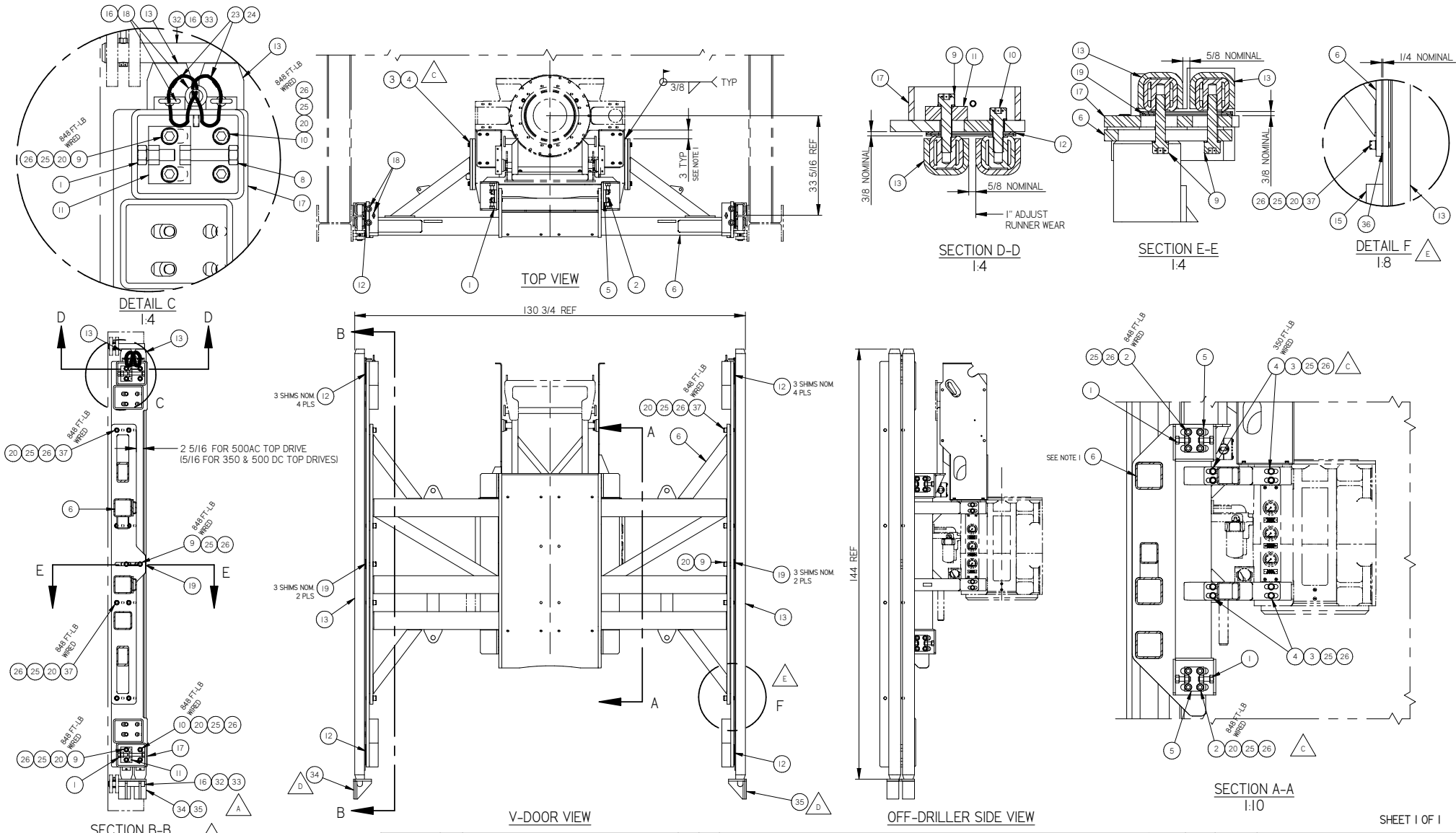
Part: AY12949
Description: GUIDE FRAME ASSY, FMLR, 1250AC

Eng ID: 3
Drawing ID: AY12949

Rev No: E

Item	Qty	Units	Part ID	Eng ID	Description
01	12.00	EA	DT10100	0	CAPSCR, FRAME ADJ, 1-8UNC x 2.50
02	32.00	EA	SH-1000NC-0275-W		CAPSCR, HEX SOC HD, 1-8UNC x 2.75, WIRED
03	16.00	EA	HH-0750NC-0200-GR8-W		CAPSCR, HEX HD, 3/4-10UNC x 2.00, GR8
04	16.00	PAIR	LW-0750-NL		LOCKWASHER, 3/4 NORD-LOCK
05	4.00	EA	841-12-0		ADJUSTER, GUIDE RAIL
06	1.00	EA	DT13891		FRAME, GUIDE, FMLR
08	4.00	EA	DT10101	0	CAPSCR, FRAME ADJ, 1-8UNC x 4.34
09	12.00	EA	SH-1000NC-0425-W		CAPSCR, HEX SOC HD, 1-8UNC x 4.25, GR8
10	8.00	EA	SH-1000NC-0300-W		CAPSCR, HEX SOC HD, 1-8UNC x 3.00
11	4.00	EA	841-13-0		ADJUSTER, GUIDE RAIL
12	20.00	EA	737-28-1		SHIM, GUIDE, 12 GA (1/8)
13	4.00	EA	924-32-0		RUNNER, GUIDE, 144 LG, COATING
14	16.00	EA	SH-1000NC-0225-W		CAPSCR, HEX SOC HD, 1-8UNC x 2.25, WIRED
15	1.00	EA	DT13899		PLATE, ADJ, DS/ODS, 26/27 TGF
16	8.00	EA	LN-0500NC-GR8		LOCKNUT, 1/2-13UNC, GR8, STOVER
17	1.00	EA	DT13899		PLATE, ADJ, DS/ODS, 26/27 TGF
18	6.00	EA	M19-4012-010		EYEBOLT, SHLD TYPE, 1/2-13UNC x 1 1/2
19	10.00	EA	DT14649		SHIM, 12 GA, RUNNER
20	52.00	EA	LW-1000-NL		LOCKWASHER, 1 NORD-LOCK
23	4.00	FT	M21-2001-010		WIRE ROPE, 3/16
24	4.00	EA	M19-3007-010		WIRE ROPE CRIMP
25	20.00	FT	M21-2000-010		WIRE ROPE, 1/16" DIA
26	24.00	EA	M19-3006-010		OVAL SLEEVE 1/16" DIA ALUMINUM
32	6.00	EA	DT14807		PIN, PARKING, TD, 1.75 DIA, FMLR
33	6.00	EA	HH-0500NC-0300-GR8		CAPSCR, HEX HD, 1/2-13UNC x 3.00, GR8
34	1.00	EA	DT15500	0	BLOCK, FMLR MAST, GUIDERUNNER SUPPORT
35	1.00	EA	DT15501	0	BLOCK, FMLR MAST, GUIDERUNNER SUPPORT
36A	16.00	EA	DT12473-125		SHIM, 1/8, TORQUE GUIDE, RIGID
36B	8.00	EA	DT12473-250		SHIM, 1/4, TORQUE GUIDE, RIGID
36C	8.00	EA	DT12473-500		SHIM, 1/2, TORQUE GUIDE, RIGID
37	16.00	EA	SH-1000NC-0250-W		CAPSCR, HEX SOC HD, 1-8UNC x 2.50

IF IN DOUBT...PLEASE ASK!



NOTE:
 1. ITEMS 34 & 35 USED FOR TOP DRIVE IN MAST RAISING POSITION
 2. ITEM 14 AND QTY 16 OF ITEM 2 ARE ALTERNATE BOLTS
 DEPENDING ON HOW MUCH SHIM (ITEM 36) IS USED.

No.	Y/M/D	BY	REVISION	CHKD	APVD	DESCRIPTION
E	07/11/19	DAA	ECN #1427: ADDED ITEM 36 SHIMS & 37, CHANGED ITEM 14 & 20	GRY	SEA	THIS PRINT AND DESIGN AND DETAIL SHOWN THEREON ARE THE PROPERTY AND INVENTION OF CANRIG DRILLING TECHNOLOGY LTD. THIS PRINT IS FURNISHED WITH THE UNDERSTANDING THAT IT IS NOT TO BE REPRODUCED WITHOUT PERMISSION AND RETURNED UPON DEMAND. ALL RIGHTS OF DESIGN AND INVENTION ARE RESERVED BY CANRIG DRILLING TECHNOLOGY LTD.
D	07/10/05	ATB	ECN #1358: ADDED ITEMS 34, 35 & NOTE 1, REMOVED SHEET 2	DAA	GRY	
C	06/04/10	RDW	ECN #1241: REMOVED ITEMS 7, 22, NOTE 1	DAA	SEA	
B	05/11/19	DNC	REVERSED POSITION OF ADJUSTABLE AND FIXED GUIDE RUNNERS	JSC	SEA	
A	05/09/08	DNC	ADDED ITEMS 32 & 33, CHANGED ITEM 30 QTY FROM 2 TO 6	JSC	SEA	

WELDING PROCEDURE AS PER CANRIG SPECIFICATION - ENG 704, UNLESS NOTED OTHERWISE		TOLERANCE - UNLESS OTHERWISE SPECIFIED	
FABRICATING IMPERIAL	FABRICATING METRIC	FABRICATING IMPERIAL	FABRICATING METRIC
CASTING ± 1/16	0.150	0 TO 24" ± 1/16	0 TO 610 mm ± 1 mm
CONCENTRICITY ± .005 TIR	± 0.125	24" TO 60" ± 1/8"	610 TO 1525 ± 3 mm
STRAIGHTNESS ± .010 IN 5 INCHES	± 0.254	60" TO 120" ± 3/16"	1525 TO 3048 ± 5 mm
SQUARENESS ± .010 IN 5 INCHES	± 0.254	120" TO 280" ± 1/4"	3048 TO 7112 ± 7 mm
PARALLELISM ± .010 or as Shown	± 0.254	280" & OVER ± 1/2"	7112 & OVER ± 13 mm
FLATNESS ± .005	± 0.127		
TRUE POSITION ± .005	± 0.127		
REMOVE SHARP CORNERS AND BURRS			
CASTING ± 1/16			
MACHINED SURFACES		DECIMAL xx ± .015"	ANGULAR ± 1'
MIN. RADIUS UNLESS SHOWN = 0.03 MAX.		xxx ± .005"	FABRICATION ± 2'

DRAWN	DNC	05/07/18
CHECKED	DAA	05/07/19
APPROVD	SEA	05/07/20
MATERIAL		

EST. WEIGHT		SCALE	PROJECT	REV
		1:15	FAST MOVING LAND RIG	E



GUIDE FRAME ASSY, FMLR, 1250AC

IF IN DOUBT...PLEASE ASK!



Engineering Bill of Material

Part: AY14553
Description: KIT, SHIMMING, GUIDE RUNNERS, F-RIGS

Eng ID: 0
Drawing ID: NO DRAWING

Rev No:

Item	Qty	Units	Part ID	Eng ID	Description
01	16.00	EA	DT12473-125		SHIM, 1/8, TORQUE GUIDE, RIGID
02	8.00	EA	DT12473-250		SHIM, 1/4, TORQUE GUIDE, RIGID
03	8.00	EA	DT12473-500		SHIM, 1/2, TORQUE GUIDE, RIGID
04	16.00	PAIR	LW-1000-NL		LOCKWASHER, 1 NORD-LOCK
05	16.00	EA	SH-1000NC-0250-W		CAPSCR, HEX SOC HD, 1-8UNC x 2.50
06	16.00	EA	SH-1000NC-0275-W		CAPSCR, HEX SOC HD, 1-8UNC x 2.75, WIRED
07	8.00	FT	M21-2000-010		WIRE ROPE, 1/16" DIA
08	8.00	EA	M19-3006-010		OVAL SLEEVE 1/16" DIA ALUMINUM