MOTORCYCLE PARTS NEWS

YAMAHA INTERNATIONAL CORPORATION
BUENA PARK, CALIFORNIA 90620
DATE 2/15/74

NUMBER 409A
PAGE 1 of 6

TX750 — CRANKCASE KIT, New Assembly to Reduce Noise and Oil Leakage

NOTE: This bulletin supercedes PNB 409 – Destroy PNB 409. Please make sure all personnel are aware of this bulletin and the installation instructions herein.

The TX750 Crankcase Kit includes new, improved crankcases for eliminating oil leakage, and all imporved parts necessary to reduce mechanical noise to an absolute minimum.

Many of these parts are improved and take the place of existing components. Please follow the reference numbers given and correct your TX750 Parts List (2nd Edition) accordingly. See Page 4 for Service and Warranty information; Page 5 for miscellaneous installation instructions.

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REMARKS
	341-15000-00-00	TX750 Crankcase Kit	1	$260.00 - No discount
3-5	341-11181-03-00	. Gasket Cylinder Head	1	New, no sealant req'd.
3-15	371-11175-00-00	. Washer Holding	2	SNB 333
3-13	90101-08208-00	. Bolt	1	Plastic coated SNB 333
3-16	90110-10014-00	. Bolt	2	Plastic coated
3-9	341-11361-10-00	. Cylinder Holding Bolt	4	Plastic coated
18-0-2	341-15100-Y7-00*	. Crankcase Assy.	1	New die casting
20-2	341-15451-03-00	. Gasket Cover Crankcase (R)	1	Matches new crankcase
20-1	341-15431-01-00	. Cover Crankcase (R)	1	
4-11	341-16111-01-24	. Gear, Primary Drive } U.R.	1	One number is selected and matched to driven gear to provide correct lash.
	341-16111-01-26			
	341-16111-01-27			
	341-16111-01-28			
2-10	341-12159-02-11	. Screw, Valve Adjusting	4	stellite treated
6-7	90201-25503-00	. Washer, Weight 1 } U.R.	4	t = 0.3mm
6-7	90201-25504-00	. Washer, Weight 1	4	t = 0.4mm
6-7	90201-25505-00	. Washer, Weight 1	4	t = 0.5mm
6-7	90201-25506-00	. Washer, Weight 1	4	t = 0.6mm
6-7	90201-25507-00	. Washer, Weight 1	4	t = 0.7mm
6-7	90201-25344-00	. Washer, Weight 1	4	t = 0.8mm
6-7	90201-25385-00	. Washer, Weight 1	4	t = 0.9mm
6-15	90201-20357-00	. Washer, Weight 2 } U.R.	2	t = 0.8mm
6-15	90201-20358-00	. Washer, Weight 2	2	t = 0.9mm
6-15	90201-20359-00	. Washer, Weight 2	2	t = 1.0mm
6-15	90201-20360-00	. Washer, Weight 2	2	t = 1.1mm
6-15	90201-20391-00	. Washer, Weight 2	2	t = 1.2mm
6-15	90201-20392-00	. Washer, Weight 2	2	t = 1.3mm
6-15	90201-20393-00	. Washer, Weight 2	2	t = 1.4mm

*See p. 3-4 for parts included in crankcase assembly.

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REMARKS
6-15	90201-20394-00	. Washer, Weight 2 } U.R.	2	t =1.5mm
6-15	90201-20395-00	. Washer, Weight 2 } U.R.	2	t = 1.6mm
6-15	90201-20396-00	. Washer, Weight 2 } U.R.	2	t = 1.7mm
6-22	341-11474-06-00	. Guide Upper	1	
5-25	156-17417-00-00	. Camshaft Shim - U.R.	2	t = 0.1mm
5-24	341-12232-01-00	. Damper washer	1	SNB 335 (00 → 01)
5-10	341-12217-03-00	. Rod	1	SNB 335
12-29	341-13427-09-00	. Spacer Strainer	1	Much more lubrication and oil cooling.
12-23	341-13417-07-00	. Cover Strainer	1	Plug sealing method changed from pressed in to welded in
12-26	91316-06075-00	. Bolt (use w/12-29)	11	ℓ = 30mm → 75mm
12-24	341-13414-09-00	. Gasket Spacer	2	
12-30	341-13414-04-00	. Gasket Strainer	1	
12-13	341-13166-03-00	. Bolt Banjo 2	1	Oil passage diameter enlarged 1.5ϕ → 1.7ϕ
13-32	341-16357-03-00	. Rod Push 2	1	For smoother clutch operation
13-31	341-16376-00-00	. Rod Push 3	1	For smoother clutch operation
13-17	93505-16006-00	. Ball (2 required)	2	1 extra in kit for a total of 3
13-20	341-16390-00-00	. Ball Screw Assy. (Deletes 13-24)	1	SNB 337
13-29	360-16345-00-00	. Spring Return	1	SNB 337
13-26	341-16389-00-00	. Joint	1	SNB 337
5-17	94662-19001-00	. Joint Chain	1	
1-4	341-11193-01-00	. Gasket Cylinder Head Cover	1	
3-8	341-11351-00-00	. Gasket Cylinder	1	
6-21	94563-16054-00	. Chain	1	Balancer
6-23	341-11495-01-00	. Bolt Reamer (upper guide)	1	
6-24	341-12249-00-00	. Bolt Reamer (upper guide)	1	
6-28	341-11494-00-00	. Bolt Reamer (lower guide)	1	After 500 kits, deleted
11-2	93603-17070-00	. Pin Dowel (pump rotor)	2	
11-9	93210-48210-00	. O-ring (pump cover)	1	
11-14	341-13335-00-00	. Key (pump driven gear)	1	
15-15	91401-25025-00	. Pin Cotter (shift fork)	3	
15-24	256-18143-02-00	. Spring (stopper lever)	1	
18-19	93210-09192-00	. O-ring	5	
19-7	341-15455-04-00	. Gasket Generator Cover	1	
23-5	341-14623-00-00	. Gasket Exhaust 2	2	
23-6	341-14613-00-00	. Gasket Exhaust 1	2	
38-28	94675-30011-00	. Joint Chain	1	
11-14	256-13168-00-00	. Gasket Banjo Bolt 2	4	
7-2	341-15519-05-00	. Sprocket Starter 2	1	
7-3	94563-16052-00	. Starter Chain	1	
7-4	341-15580-05-00	. Clutch Starter	1	SNB 336 (04 → 05)
7-8	91310-08015-00	. Bolt	3	
6-8	93450-36018-00	. Circlip	1	
6-12	341-11464-21-00	. Weight 2	1	pre-matched and packed as set
6-13	341-11465-40-00	. Shaft-2	1	pre-matched and packed as set
6A-13	93310-41887-00	. Bearing	2	pre-matched and packed as set

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REMARKS
6A-14	90560-18056-00	. Spacer	1	Drawing 6A, page 6 of this bulletin, is an add to Fig. 6 of Parts List. All "6" Ref. Nos. pertain to omni-phase balancer with new adjustable shaft (2).
6-16	93450-30019-00	. Circlip	1	
6A-17	90387-16234-00	. Collar 1	1	
6A-18	90387-16239-00	. Collar	1	
6A-19	90387-16235-00	. Collar	1	
6A-20	90387-20236-00	. Collar	1	
6A-21	93101-20064-00	. Oil Seal	1	
6A-22	90201-20270-00	. Shim	1	
6A-23	341-11445-01-00	. Spacer	1	
6A-24	90336-05010-00	. Plug	1	
6A-26	90179-31055-00	. Nut	1	
6A-27	90215-08042-00	. Washer Lock	1	
6A-28	92901-18100-00	. Washer Spring	1	
6A-29	91201-08018-00	. Bolt	1	
13-0-1	341-16301-03-00	. Clutch Assy.	1	Includes following parts
			1	
13-1	341-16150-05-00	.. Gear Primary Driven	1	Back lash 0.03~0.05mm
13-14	341-16181-02-00	.. Spacer	1	
13-7	341-16351-01-00	.. Plate Pressure	1	
13-4	341-16371-01-00	.. Boss Clutch	1	(NOTE: Both 02 and 03 type clutch assemblies will continue to be sold. Both types use bushing rather than needle bearing.)
13-3	341-16164-00-00	.. Plate Thrust 2	1	
13-5	341-16321-13-00	.. Plate Friction 1	7	
13-6	341-16325-01-00	.. Plate Clutch	6	
13-9	256-16337-00-00	.. Screw Spring	6	
13-8	256-16333-00-00	.. Spring Clutch	6	
4-10	341-11416-00-00	. Bearing Crankshaft 1	4	Quantity in kit for proper clearance during assembly. Parts list should read: U.R. 6.
4-10	341-11416-10-00	. Bearing Crankshaft 2	6	
4-10	341-11416-20-00	. Bearing Crankshaft 3	6	
4-10	341-11416-30-00	. Bearing Crankshaft 4	4	
4-10	341-11416-40-00	. Bearing Crankshaft 5	2	
18-0-2	341-15100-Y7-00	. Crankcase Assy.	1	Kit assy. only includes following parts
11-3	93104-11038	.. Oil Seal	1	(Added)
18-28	90344-52001-00	.. Plug Taper Screw	1	Delete from Parts List
6-9	93311-52510-00	.. Bearing	2	
15-21	93320-31501-00	.. Bearing (shift drum)	1	
11-3	93104-11038-00	.. Oil Seal (oil pump crank case)	1	
18-3	91810-05016-00	.. Pin Dowel	2	
18-4	341-15192-00-00	.. Bolt Crankcase Stud 1	3	
18-5	341-15193-00-00	.. Bolt Crankcase Stud 2	2	
18-6	341-15194-00-00	.. Bolt Crankcase Stud 3	1	
18-7	341-15195-00-00	.. Bolt Crankcase Stud 4	4	
18-8	276-11361-00-00	.. Bolt Cylinder Holding	3	
18-9	341-15197-00-00	.. Bolt Crankcase Stud 6	1	
18-10	341-15198-00-00	.. Bolt Crankcase Stud 7	1	
18-11	256-15194-00-00	.. Bolt Crankcase Stud 5	2	

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REMARKS
18-12	341-15157-00-00	.. Nut	6	
18-13	256-11174-00-00	.. Washer Holding	5	
18-14	98803-08200-00	.. Nut	18	
18-15	92901-08200-00	.. Washer Plain	19	
18-16	90901-08194-00	.. Bolt	1	
6-31	341-11175-00-00	.. Washer	1	
18-17	97101-08110-00	.. Bolt	1	
18-18	97101-08040-00	.. Bolt	1	
18-20	341-15337-00-00	.. Collar	1	
18-21	341-81838-00-00	.. Clamp 1	2	
18-22	341-81839-00-00	.. Clamp 2	2	
18-23	341-13115-10-00	.. Connector, Suction Pipe	1	
16-7	93109-14010-00	.. Oil Seal (change shaft)	1	
6-27	341-11457-06-00	. Guide Lower	1	Included in crankcase assembly after initial 500 kits
6-28	341-11494-00-00	. Bolt Reamer	2	
6-29	341-15396-00-00	. Gasket Holder	1	
6-30	341-15395-00-00	. Holder	1	
6-31	341-11175-00-00	. Washer	1	
6-32	97101-08050-00	. Bolt	1	

SERVICE

The following Service News Bulletins contain TX750 engine troubleshooting information. They may be used as reference material for some of the parts changes included within this kit.

BULLETIN NUMBER	SUBJECT
333	OIL LEAKS, Top End (Disregard Paragraph 4)
335	CAM CHAIN TENSIONER NOISE
336	STARTER CLUTCH NOISE
337	IRREGULAR CLUTCH ENGAGEMENT
338	OIL LEAKS, Ignition Point Area
345	OIL LEAKS, Lower Crankcase Studs

WARRANTY

PROBLEM CODE: 90L **JOB CODE:** 2410 **HOURS:** 15.8

ELIGIBLE MACHINES	–	Any TX750 which continues to have oil leakage and/or mechanical noise problems even though previously recommended correction procedures have been applied.
PARTS ALLOWANCE	–	Coverage will include the cost of the kit plus the cost of other engines parts found to be damaged.
TIME LIMIT	–	Complete all kit installations by May 31, 1974, and mail all warranty claims by June 14, 1974.

Call the Yamaha Claims Adjustors (714/522-9313) if you have any questions concerning warranty coverage.

MISC. INSTALLATION INSTRUCTIONS

REF. 3-9 CYLINDER HOLDING BOLT (341-11361-10-00)
Use inlet side only. (Silicon rubber coated threads.)

3-13 BOLT (90101-08208-00)
Use inlet side only. (Silicon rubber coated threads.)

3-16 BOLT (90110-10014-00)
Each side of cylinder head. (Silicon rubber coated threads.) Use special washer (P/N 371-11175-00-00). Check for proper washer clearance during assembly.

5-24 CAMSHAFT SHIM (156-17417-00-00)
Use same thickness shim each side as required. Recommended side play: 0.1 ~ 0.2mm.

6-2 BALANCER SHAFT (1) (341-11455-03-00) *(Not in kit)*
A new shaft is *not* included in kit. The old shaft must be retained and used. The new crankcase assembly has new shaft bearings which reduce shaft-to-bearing clearance to decrease noise. If the old shaft will not fit within the new, tighter bearings, a smaller diameter replacement shaft is available. Order using P/N 341-11455-40-00. Include information regarding new shaft in Warranty Claim Form when job is complete.

6-7 WASHER, WEIGHT (1) (90201-25503 ~)
Must use *two* pieces *each* side. Recommended side play: 0.05 ~ 0.15mm. Use same total thickness of shims on each side, do not offset.

6-12 WEIGHT (2) (341-11464-21-00)
One weight is pre-selected and packed as set with following two parts to provide correct clearance.

6-13 SHAFT (2) (341-11465-40-00)
6A-13 BEARING (93310-41887-00)

NOTE 1: With weights and chain installed, rotate and check clearance between weights 1 and 2 in all adjustable shaft positions. If weight 2 strikes shoulder on weight 1, remove material from shoulder of weight 1 as required to provide correct clearance.

6-15 WASHER, WEIGHT (2) (90201-20357-00 ~)
Must use *one* piece *each* side. Recommended side play: 0.05 ~ 0.15mm. Use same thickness shim each side, do not offset.

6-21 BALANCER CHAIN (94563-16054-00)
Disregard previous chain tension recommendations. Adjust tension to: 0.15mm $^{+0}_{-0.05}$. Start engine and check. If noise persists, loosen adjustor, engine running, until noise ceases. Do not loosen excessively.

13-0-1 CLUTCH ASSEMBLY (341-16301-03-00)
New bushing type. Pre-matched and packed as set with primary drive gear (4-11). Gear lash number code nominal total: 54 ± 1. Shaft center lines will vary. Always measure backlash after installing. Required backlash: 0.03 ~ 0.05mm.

NOTE 2: Wrap crankcase stud threads with plastic tape prior to assembling case halves. After assembly, remove tape. If stud threads are not taped, they will scrape material off the stud holes of the opposing case half. This material will contaminate bearings and journals.

NOTE 3: Strainer spacer (12-29) and cover (12-23) must be installed *after* engine is in frame.

NOTE 4: There are excess parts included in kit for fitting purposes during assembly. Discard excess after assembly.

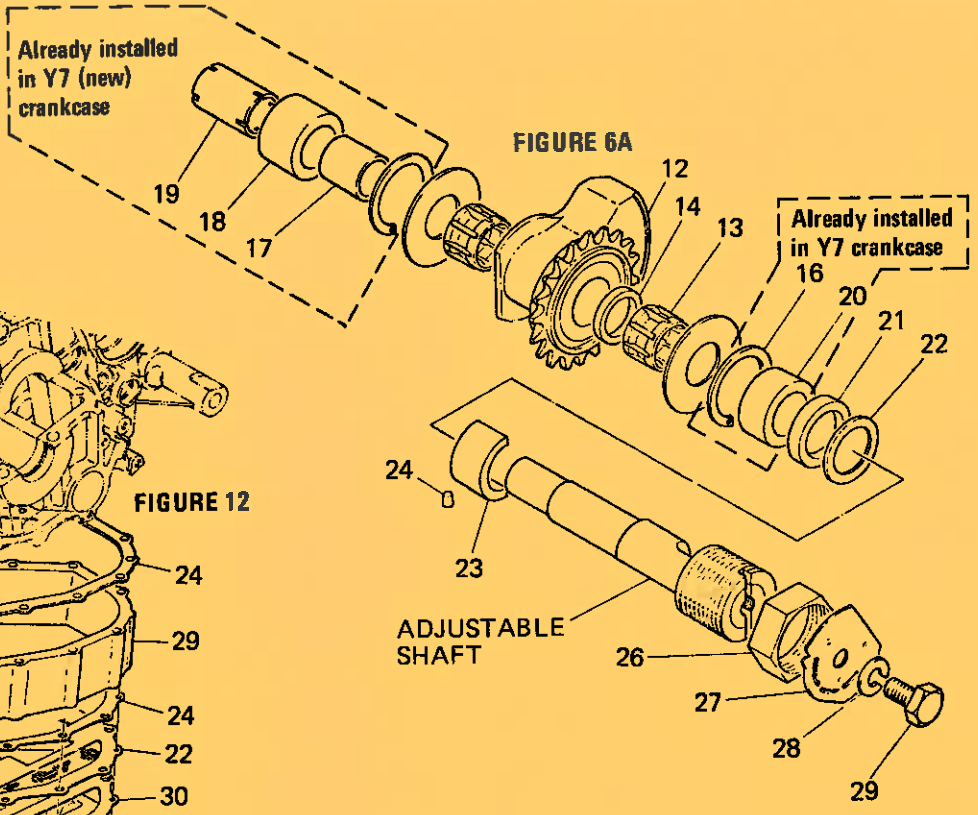


FIGURE 6A

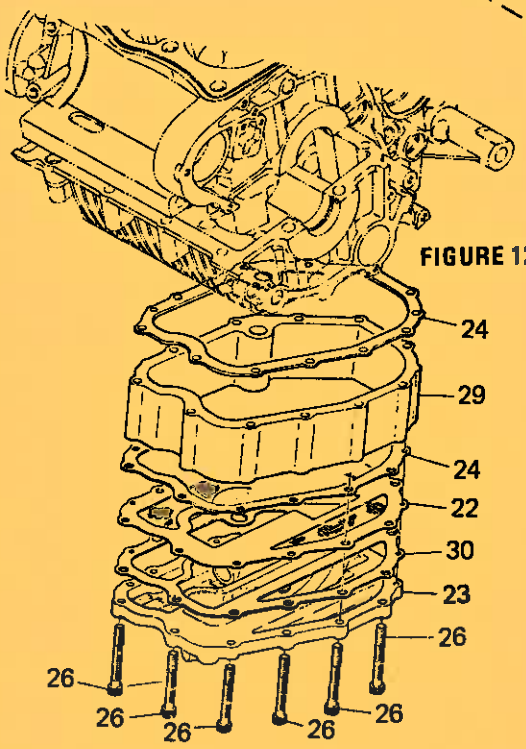


FIGURE 12

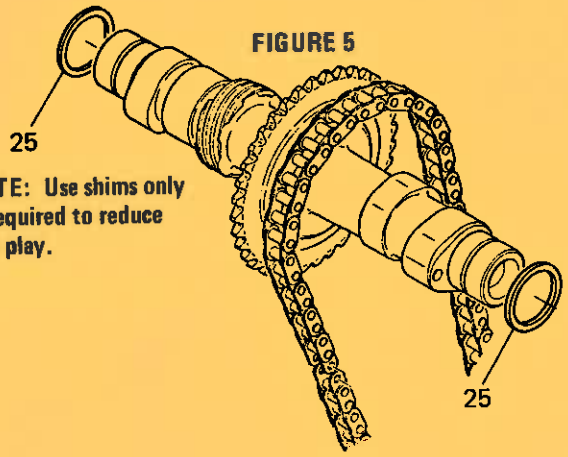


FIGURE 5

NOTE: Use shims only as required to reduce side play.

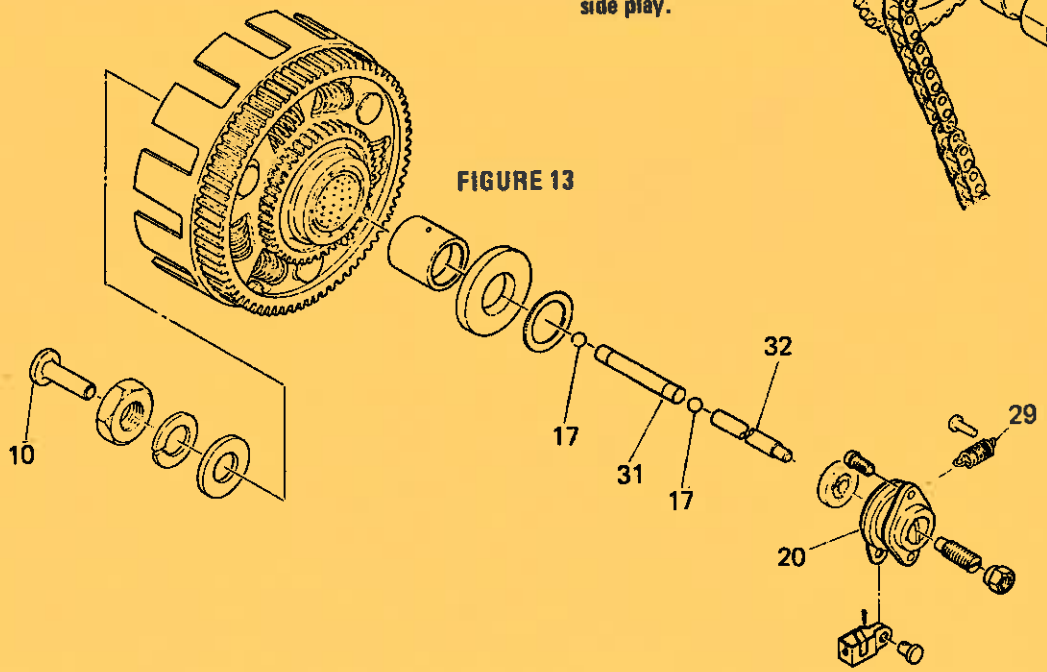


FIGURE 13

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