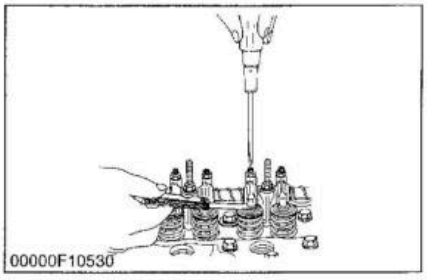
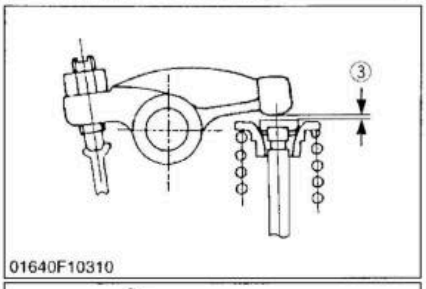
WSM

WORKSHOP MANUAL
TRACTOR

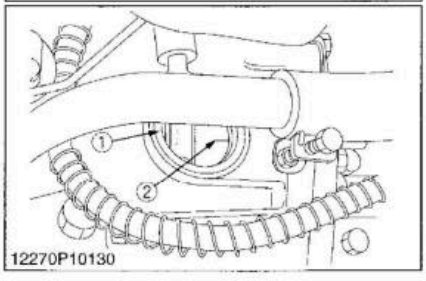
B7400 B7500

Kubota

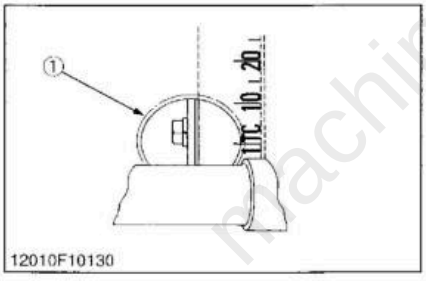

00000F10530



01640F10310



12270P10130



12010F10130

Valve Clearance

■ IMPORTANT

- **Valve clearance must be checked and adjusted when engine is cold.**

1. Remove the head cover, the glow plugs and the timing window cover on the clutch housing.
2. Align the **"1TC"** mark line on the flywheel and center of timing window so that the No. 1 piston comes to the compression or overlap top dead center.
3. Check the following valve clearance marked with "☆" using a feeler gauge.
4. If the clearance is not within the factory specifications, adjust with the adjusting screw.

Valve clearance	Factory spec.	0.145 to 0.185 mm 0.0057 to 0.0073 in.

■ NOTE

- **The "TC" marking line on the flywheel is just for No. 1 cylinder. There is no "TC" marking for the other cylinders.**
- **No. 1 piston comes to the T.D.C. position when the "TC" marking is aligned with center of timing window on clutch-housing. Turn the flywheel 0.26 rad. (15°) clockwise and counterclockwise to see if the piston is at the compression top dead center or the overlap position. Now referring to the table below, readjust the valve clearance. (The piston is at the compression top dead center when both the IN. and EX. valves do not move; it is at the overlap position when both the valves move.)**
- **Finally turn the flywheel 6.28 rad. (360°) and align the "TC" marking line and the center of timing window. Adjust all the other valve clearance as required.**
- **After turning the flywheel counterclockwise twice or three times, recheck the valve clearance, firmly tighten the lock nut of the adjusting screw.**
- **The sequence of cylinder numbers is given as No. 1, No. 2 and No. 3 starting from the gear case side.**

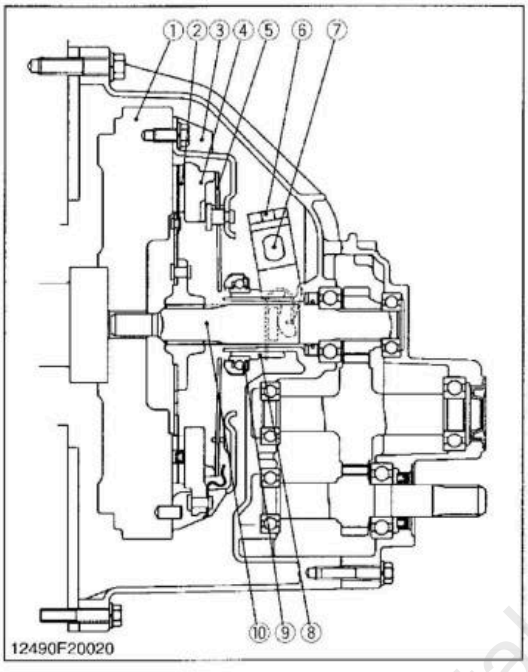
Adjustable cylinder location of piston \ Valve arrangement		IN.	EX.
When No. 1 piston is compression top dead center	No. 1	☆	☆
	No. 2		☆
	No. 3	☆	
When No.1 piston is overlap position	No. 1		
	No. 2	☆	
	No. 3		☆

(1) Timing Window
(2) TC Mark Line
(3) Valve Clearance

12490S10110

1-S CONTENTS

[3] OPERATION



12490F20020

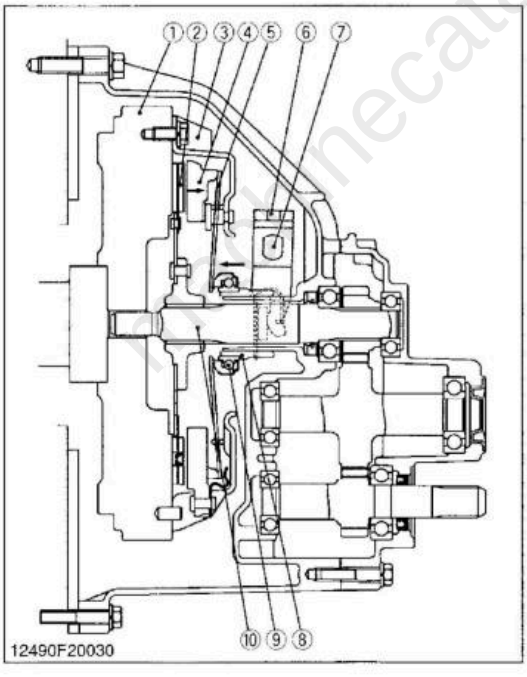
12490M20020

■ Clutch "Engaged"

When the clutch pedal is not depressed, the clutch release bearing (9) and the fingers of diaphragm spring (5) are not connected to each other.

Accordingly, the pressure plate (4) is tightly pressed against the flywheel (1) by the diaphragm spring (5). As a result, rotation of the flywheel (1) is transmitted to the transmission through the clutch shaft (10) due to the frictional force among the flywheel (1), clutch disc (2) and pressure plate (4).

(1) Flywheel
(2) Clutch Disc
(3) Clutch Cover
(4) Pressure Plate
(5) Diaphragm Spring
(6) Release Fork
(7) Clutch Rod
(8) Release Hub
(9) Release Bearing
(10) Clutch Shaft



12490F20030

12490M20030

■ Clutch "Disengaged"

When the clutch pedal is depressed, the clutch pedal rod is pulled to move the clutch rod (7). Then, the release fork (6) pushes the release hub (8) and release bearing (9) toward the flywheel. Simultaneously, the release bearing (6) pushes the diaphragm spring (5).

As the pressure plate (4) is pulled by the diaphragm spring (5), the frictional force among the flywheel (1), clutch disc (2) and pressure plate (4) disappears.

Therefore, rotation of the flywheel (1) is not transmitted to the clutch disc (2), and then the rotation of the clutch shaft (10) stops.

(1) Flywheel
(2) Clutch Disc
(3) Clutch Cover
(4) Pressure Plate
(5) Diaphragm Spring
(6) Release Fork
(7) Clutch Rod
(8) Release Hub
(9) Release Bearing
(10) Clutch Shaft

2-M CONTENTS

TROUBLESHOOTING (Continued)

CLUTCH HOUSING

Symptom	Probable Cause	Solution	Reference Page
Noise from Clutch Housing	• Transmission oil insufficient	Refill	3-S10
	• Gear worn or broken	Replace	3-S15
	• Bearing worn	Replace	3-S15

TRANSMISSION CASE SECTION

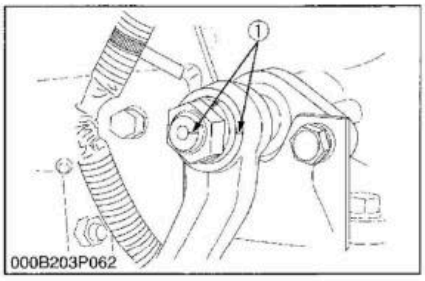
Noise from Transmission	• Transmission oil insufficient	Refill	3-S10
	• Gear worn or broken	Replace	–
	• Improper backlash between spiral bevel pinion and bevel gear	Adjust	3-S38
	• Improper backlash between differential pinion and differential side gear	Adjust	3-S37
	• Bearings worn	Replace	–
Gear Slip Out of Mesh	• Shift fork spring tension insufficient	Replace	–
	• Shift fork or shifter worn	Replace	–
	• Shift fork bent	Replace	–

DIFFERENTIAL CASE SECTION

Excessive or Unusual Noise at All Time	• Improper backlash between spiral bevel pinion and bevel gear	Adjust	3-S38
	• Improper backlash between differential pinion and differential side gear	Adjust	3-S37
	• Bearing worn	Replace	–
	• Insufficient or improper type of transmission fluid used	Replenish or Replace	3-S10
Noise while Turning	• Differential pinions or differential side gears worn or damaged	Replace	3-S24, S30
	• Differential lock binding (does not disengage)	Replace	3-S21, S26
	• Bearings worn	Replace	–
Differential Lock Can Not Be Set	• Differential lock shift fork damaged	Replace	4-S3
	• Differential lock shifter mounting pin damaged	Replace	4-S3
	• Differential lock clutch damaged	Replace	4-S3
Differential Lock Pedal Does Not Return	• Differential lock pedal return spring weaken or damaged	Replace	–
	• Differential lock fork shaft rusted	Repair	3-S21, S26 4-S2

12490S30010

3-S CONTENTS



Pitman Arm

1. Use a pitman arm puller or similar puller to remove the pitman arm.

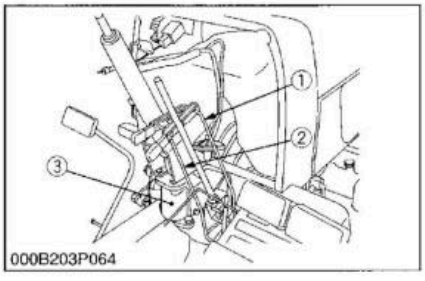
■ IMPORTANT

- **When removing pitman arm, do not strike the end of cross shaft or puller. Damage to gear box could occur.**
- **Install the pitman arm to the sector gear shaft so that their marks align.**

Tightening torque	Pitman arm mounting	96.1 to 115.7 N·m 9.8 to 11.8 kgf·m 70.8 to 85.3 ft-lbs

(1) Alignment Mark

12490S70070



Steering Gear Box Assembly

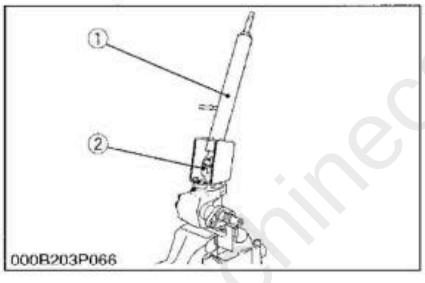
1. Remove the parking brake lever (1) and speed control set lever (2).
2. Remove the steering gear box assembly (3) from the center frame.

Tightening torque	Steering gear box mounting screw	77.5 to 90.2 N·m 7.9 to 9.2 kgf·m 57.2 to 66.5 ft-lbs

(1) Parking Brake Lever
(2) Speed Control Set Lever
(3) Steering Gear Box Assembly

12490S70080

(2) Disassembling Steering Gear Box



Steering Column and Top Cover

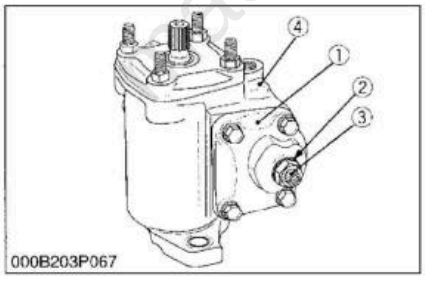
1. Secure the steering assembly in a vise.
2. Loosen the steering column (1) mounting nut, and remove the steering column with steering shaft and universal joint (2).

(When reassembling)

Tightening torque	Steering column mounting nut	23.5 to 27.5 N·m 2.4 to 2.8 kgf·m 17.4 to 20.3 ft-lbs

(1) Steering Column
(2) Universal Joint

12490S70090



Side Cover

1. Remove the lock nut (2) and seal washer on the adjusting screw.
2. Remove the side cover mounting screws.
3. Adjusting the screw (3) in, to remove the side cover (1).

(When reassembling)

- Apply liquid gasket (Three Bond 1208D or equivalent) to joint face of side cover (1) and steering gear box (4).
- Apply liquid gasket (Three Bond 1208D or equivalent) to threads of adjusting screw (3) and luck nut (2).
- Be sure to keep adjusting screw loose when tightening.

Tightening torque	Side cover mounting screw	23.5 to 27.5 N·m 2.4 to 2.8 kgf·m 17.4 to 20.3 ft-lbs

(1) Side Cover
(2) Lock Nut
(3) Adjusting Screw
(4) Steering Gear Box

12490S70100

7-S CONTENTS