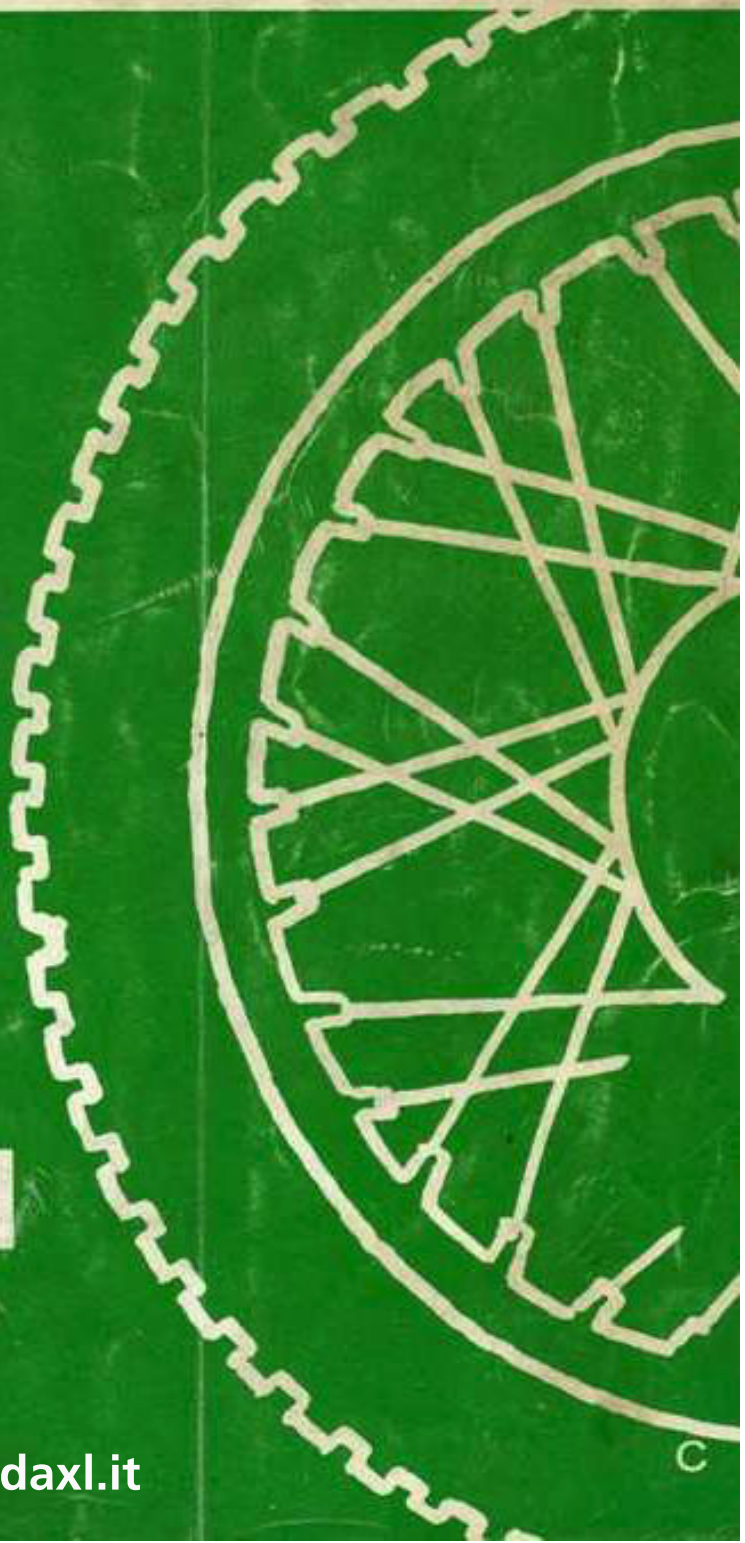
HONDA

XL400R
XL500R



SHOP MANUAL
MANUEL D'ATELIER
WERKSTATT-HANDBUCH
MANUAL DE TALLER

HONDA MOTOR CO., LTD 1982

INTRODUCTION

This Addendum contains information for the XL400R and XL500R. Refer to the base shop manual for service information not included in this addendum.
The XL400R (F type) can be used the above base Manual.

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Service Publications Office

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INTRODUCTION

Ce supplément renferme des informations pour la XL400R et XL500R. Se reporter au manuel d'atelier principal pour les informations d'entretien qui n'y sont pas données.
La XL400R (type F) suit les explications du Manuel d'atelier de base.

TOUTES LES INFORMATIONS, ILLUSTRATIONS. INSTRUCTIONS ET CARACTERISTIQUES DE CETTE PUBLICATION S'APPUIENT SUR LES DERNIERES DONNEES SUR LE PRODUIT DISPONIBLES AU MOMENT DE LA MISE SOUS PRESSE. LA HONDA MOTOR CO., LTD. SE RESERVE LE DROIT D'EFFECTUER DES MODIFICATIONS A TOUT MOMENT. SANS AUTRE AVERTISSEMENT ET SANS AUCUNE OBLIGATION DE SA PART.

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TABLE DES MATIERES

GENERAL INFORMATION

SPECIFICATION

	ITEM		XL500R	AREA	XL400R
DIMENSIONS	Overall length		2,155 mm (84.8 in)	G	2,110 mm (83.1 in)
			2,110 mm (83.1 in)	F	←
			2,210 mm (87.0 in)	ED	←
	Overall width		865 mm (34.1 in)		←
	Overall height		1,260 mm (49.6 in)		←
	Wheel base		1,405 mm (55.3 in)		←
	Seat height		895 mm (35.2 in)		←
	Ground clearance		270 mm (10.6 in)		←
	Dry weight		139 kg (306 lb)		138 kg (304 lb)
FRAME	Frame type		Diamond		←
	Front suspension, travel		Telescopic, 215 mm (8.5 in)		←
	Rear suspension, travel		Pro-link, 190 mm (7.5 in)		←
	Front tire size, pressure		3.00-21-4PR		←
			150 kPa (1.5 kg/cm², 21 psi)		←
	Rear tire size, pressure		4.60-17-4PR		←
			150 kPa (1.5 kg/cm², 21 psi)		←
	Front brake, swept area		Internal expanding shoes		←
			102 cm² (15.8 sq in)		←
	Rear brake, swept area		Internal expanding shoes		←
			122 cm² (18.9 sq in)		←
	Fuel capacity		10 lit (2.6 US gal, 2.2 Imp gal)		←
	Fuel reserve capacity		2 lit (0.5 US gal, 0.4 Imp gal)		←
	Caster		61°		←
	Trail		118 mm (4.6 in)		←
	Front fork oil capacity/oil level		378.5 cc (12.8 US oz)/163.0 mm (6.42 in)		←
ENGINE	Type		Gasoline, air-cooled 4 stroke O.H.C.		←
	Cylinder arrangement		Single cylinder inclined 15°		←
	Bore x stroke		89 x 80 mm (3.50 x 3.15 in)		89 x 64 mm (3.50 x 2.52 in)
	Displacement		498 cm³ (30.37 cu in)		398 cm³ (24.28 cu in)
	Compression ratio		8.6 : 1		←
	Valve train		Silent chain driven OHC, 4-valve		←
	Maximum horsepower		24.3 kW/6,500 min⁻¹ (33 PS/6,500 rpm)		19.9 kW/6,500 min⁻¹ (27 PS/6,500 rpm)
	Maximum torque		39 N.m (3.9 kg-m, 28.2 ft-lb)/ 5,000 min⁻¹ (rpm)		32 N.m (3.2 kg-m, 23.1 ft-lb)/ 5,000 min⁻¹ (rpm)
	Engine oil capacity				
	(After disassembly)		2.0 liters (2.1 US qt, 1.8 Imp qt)		←
	(After draining)		1.5 liters (1.6 US qt, 1.3 Imp qt)		←
	Intake valve	opens	5° (BTDC) } At 1 mm lift		
		closes	40° (ABDC) }		←
	Exhaust valve	opens	45° (BBDC) }		
		closes	5° (ATDC) }		
	Valve clearance	Intake	0.05 mm (0.002 in)		←
		Exhaust	0.10 mm (0.004 in)		←

	ITEM		XL500R	AREA	XL400R
CARBURETOR	Type		Piston valve, 32 mm (1.26 in)		Piston valve, 30 mm (1.18 in)
	Identification number		PD 78A		PD 75A
	Main jet		#130		#125
	Pilot screw initial opening		2-1/4		←
	Float level		18.0 mm (0.71 in)		←
	Idle speed		1,200 ± 100 mm^{-1} (rpm)		←
DRIVE TRAIN	Clutch		Wet multi-plate		←
	Transmission		5-speed constant mesh		←
	Primary reduction ratio		2.379 (69/29)		←
	Gear ratio	1st	2.462 (32/13)		←
		2nd	1.647 (28/17)		←
		3rd	1.250 (25/20)		←
		4th	1,000 (23/23)		←
		5th	0.840 (21/25)		←
	Final reduction ratio		2.733 (41/15)		3.066 (46/15)
	Gear shift pattern		Left foot operated return system		←
	Drive chain		DID 520 VS or RK520 SO		←
			100 Links		102 Links
ELECTRICAL	Ignition		C.D.I.		←
	Ignition timing	Initial	10°BTDC at 1,200 min^{-1} (rpm)		←
		Full advance	35°BTDC at 3,500 min^{-1} (rpm)		35° BTDC at 3,000 min^{-1} (rpm)
	Alternator		12V – 196W/5,000 min^{-1} (rpm)		←
	Battery capacity		12V – 3AH		←
	Spark plug	Standard:	DR8ES-L (NGK) or X24ESR-U (ND)		DR8ES-L (NGK) or X24ESR-U (ND)
			D8EA (NGK) or X24ES-U (ND)	U, D	
		For cold climate (Below 5°C, 41°F):	DR7ES (NGK) or X22ESR-U (ND)		DR7ES (NGK) or X22ESR-U (ND)
			D7EA (NGK) or X22ES-U (ND)	U, D	
		For extended high speed riding:	DR8ES (NGK) or X27ESR-U (ND)		DR8ES (NGK) or X27ESR-U (ND)
			D9EA (NGK) or X27ES-U (ND)	U, D	
	Spark plug gap		0.6–0.7 mm (0.024–0.028 in)		←
	Headlight (high/low)		12V–35/35W		12V–36/36W
			12V–36/36W	F	
	Tail/stoplight		12V–5/21W		←
	Turn signal light		12V–21W		12V–21W
			12V–23W	D,SA,U	
	Speedometer light		12V–1.7W		←
	Tachometer light		12V–3.4W		←
	Neutral indicator light		12V–3.4W		←
	Turn signal indicator light		12V–3.4W		←
	High beam indicator light		12V–1.7W		←
	Position light		12V–4W		←

TORQUE SPECIFICATIONS

• ENGINE

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE		
			N.m	kg-m	ft-lb
Kickstarter stopper plate	1	8	18–25	1.8–2.5	13–18
Kickstarter spring fook pin	1	8	22–30	2.2–3.0	16–22
Gear shift drum bearing set plate screw	2	6	9–13	0.9–1.3	7–9
Upper crankcase 6 mm bolt	7	6	10–14	1.0–1.4	7–10
8 mm bolt	1	8	22–28	2.2–2.8	16–20
Lower crankcase 6 mm bolt	5	6	10–14	1.0–1.4	7–10
9 mm bolt	2	9	27–33	2.7–3.3	20–24
10 mm bolt	2	10	32–38	3.2–3.8	23–27
Balancer holder lock bolt	1	8	22–28	2.2–2.8	16–20
Cam chain tensioner	2	6	10–14	1.0–1.4	7–10
Primary drive gear lock nut	1	18	45–60	4.5–6.0	33–43
Clutch center lock nut	1	18	45–60	4.5–6.0	33–43
Flywheel bolt	1	12	100–120	10.0–12.0	72–87
Cylinder 6 mm bolt	2	6	10–14	1.0–1.4	7–10
8 mm nut	2	8	22–28	2.2–2.8	16–20
Cylinder head cap nut	6	8	22–28	2.2–2.8	16–20
Cam sprocket bolt	2	7	17–23	1.7–2.3	12–17
Valve clearance adjuster lock nut	4	6	15–18	1.5–1.8	11–13
Valve adjuster cover	4	6	10–14	1.0–1.4	7–10
Cylinder head cover 6 mm bolt	11	6	10–14	1.0–1.4	7–10
7 mm bolt	2	7	13–17	1.3–1.7	9–12
Carburetor set band	2	5	3–5	0.3–0.5	2–4
Decompressor cable lock nut	1	6	5–7	0.5–0.7	4–5
Spark plug	1	12	15–20	1.5–2.0	11–14
Engine oil drain plug	1	12	30–40	3.0–4.0	22–29

• FRAME

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE		
			N.m	kg-m	ft-lb
Engine mount bolt 8 mm	4	8	30–37	3.0–3.7	22–27
10 mm	3	10	55–65	5.5–6.5	40–47
12 mm	2	12	90–100	9.0–10.0	65–72
Steering stem nut	1	24	80–120	8.0–12.0	58–87
Steering adjuster nut	1	26	1–2	0.1–0.2	0.7–1.4
Steering stem pipe pinch bolt	1	10	40–50	4.0–5.0	29–36
Front fork pinch bolt (upper)	2	8	18–23	1.8–2.3	13–17
(lower)	2	8	30–35	3.0–3.5	22–25
Handlebar holder bolt	4	8	18–30	1.8–3.0	13–22
Front axle	1	12	50–80	5.0–8.0	36–58
Front axle holder nut	4	6	10–14	1.0–1.4	7–10
Rear axle	1	16	80–110	8.0–11.0	58–80
Driven sprocket nut	6	8	28–34	2.8–3.4	20–25
Swingarm pivot	1	14	70–100	7.0–10.0	51–72
Rear shock absorber mount bolt (upper)	1	10	60–75	6.0–7.5	43–54
(lower)	1	10	38–48	3.8–4.8	27–35
Suspension linkage pivot bolt					
(Swingarm to shock arm)	1	12	90–120	9.0–12.0	65–87
(Shock arm to shock link)	1	10	60–75	6.0–7.5	43–54
(Shock link to frame)	1	10	60–75	6.0–7.5	43–54
Foot peg bracket bolt	2	12	70–100	7.0–10.0	51–72
Kickstarter pedal bolt	1	8	20–35	2.0–3.5	15–25
Gearshift pedal bolt	1	6	8–12	0.8–1.2	6–9
Muffler band bolt	2	8	15–25	1.5–2.5	11–18
Muffler mount bolt	2	8	20–30	2.0–3.0	15–22
Side stand pivot nut	1	10	35–45	3.5–4.5	25–33

• STANDARD TORQUE VALUES

Torque specifications listed above are for the most important tightening points. If a torque specification is not listed, follow the standards given below.

Type	Torque N.m (kg-m, ft-lb)	Type	Torque N.m (kg-m, ft-lb)
5 mm bolt, nut	4.5–6.0 (0.45–0.6, 3.3–4.3)	5 mm screw	3.5–6.0 (0.35–0.5, 2.5–3.6)
6 mm bolt, nut	8–12 (0.8–1.2, 6–9)	6 mm screw	7–11 (0.7–1.1, 5–8)
8 mm bolt, nut	18–25 (1.8–2.5, 13–18)	6 mm flange bolt, nut	10–14 (1.0–1.4, 7–10)
10 mm bolt, nut	30–40 (3.0–4.0, 22–29)	8 mm flange bolt, nut	24–30 (2.4–3.0, 17–22)
12 mm bolt, nut	50–60 (5.0–6.0, 36–43)	10 mm flange bolt, nut	30–40 (3.0–4.0, 22–29)

TOOLS

• SPECIAL

( ): Refer to base man

DESCRIPTION	TOOL NO.	ALTERNATE TOOL	REF. PAG
6 mm hex wrench	07917–3230000		22–46·50
Circlip priers	07914–3230001		22–50
Steering stem socket	07916–3710100		22–56
Clutch center holder	07923–4280000		22–30·31
Bearing remover set	07936–3710000	Handle 07936–3710100 Weight 07936–3710200 Remover, 23 mm 07936–3710600	22–73
Needle bearing driver	07946–KA50000		22–73
Bearing race remover	07953–MA00000		22–54
Steering stem driver	07946–4300101		22–55
Valve guide reamer, 6.6 mm	07984–5510000		(6–13)
Fork seal driver	07947–3710101		22–50·51

• COMMON

DESCRIPTION	TOOL NO.	ALTERNATE TOOL	REF. PAGE
Float level gauge	07401–0010000		22–23
Spoke wrench, 5.8 x 6.1 mm	07701–0020300		22–19
Valve adjuster	07708–0030300		(3–6)
Valve adjuster wrench, 10 x 12 mm	07708–0030200		(3–6)
Retainer wrench body	07710–0010401	Retainer wrench 07910–3600000	22–62·64
Retainer wrench attachment	07710–0010200		22–62·64
Socket wrench, 30 x 32 mm	07716–0020400		22–53
Extension	07716–0020500		22–53
Rotor puller (22 mm)	07733–0020001	Roter puller 07933–3290001	(9–3)
Valve guide remover, 6.6 mm	07742–0010200	Remover 07942–6110000 or 07942–6570100	(6–12)
Valve guide driver	07742–0020200	Driver 07942–3290200	(6–13)
Attachment, 32 x 35 mm	07746–0010100	Driver 07949–2860000	22–40
Pilot, 15 mm	07746–0040300	Attachment 07946–9180000	22–40
Attachment, 37 x 40 mm	07746–0010200	Driver 07949–3000000	22–64
Pilot, 17 mm	07746–0040400	Attachment 07946–3000100	22–64
Attachment, 42 x 47 mm	07746–0010300	Attachment 07946–4300200	22–54·63
Pilot, 20 mm	07746–0040500		22–63
Driver	07749–0010000		22–40·54·6

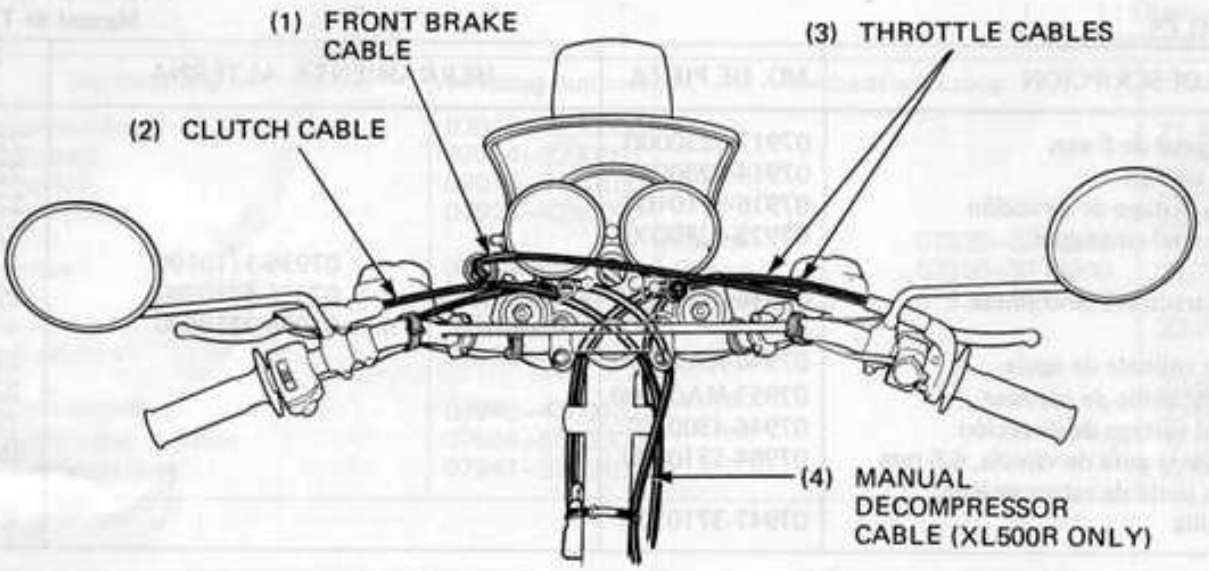
• OPTIONAL TOOL

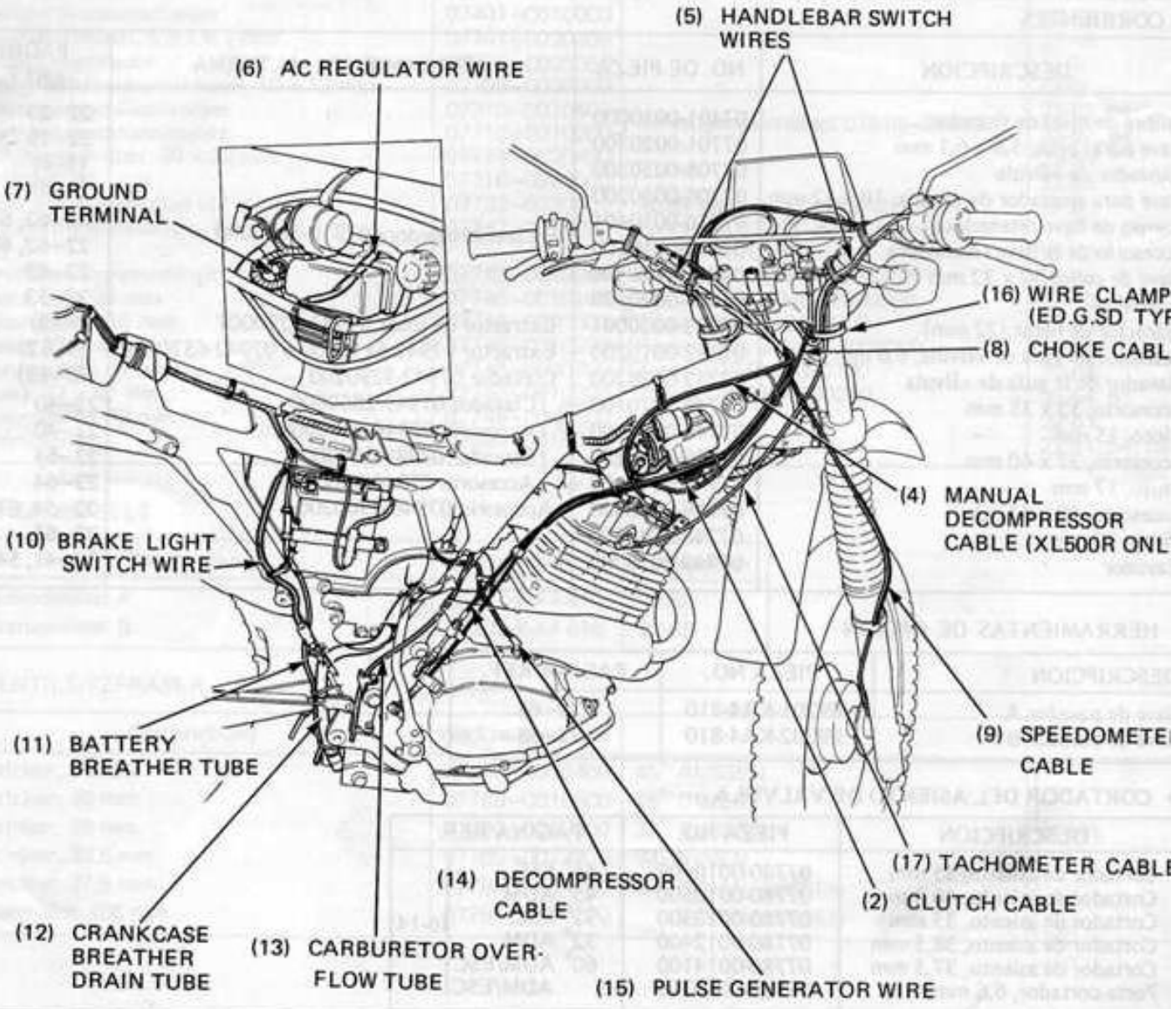
DESCRIPTION	TOOL NO.	REF. PAGE
Pin spanner A	89201–KA4–810	22–68
Pin spanner B	89202–KA4–810	22–68

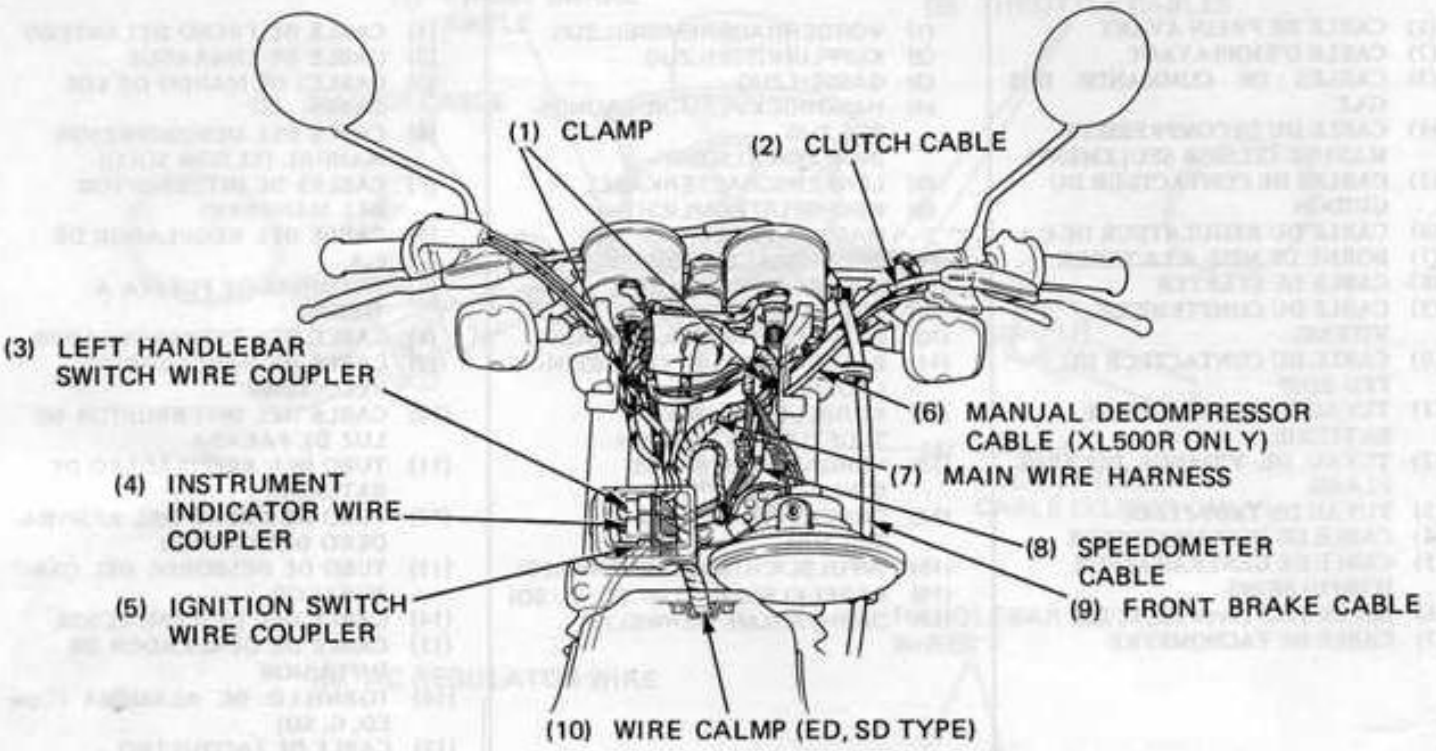
• VALVE SEAT CUTTERS

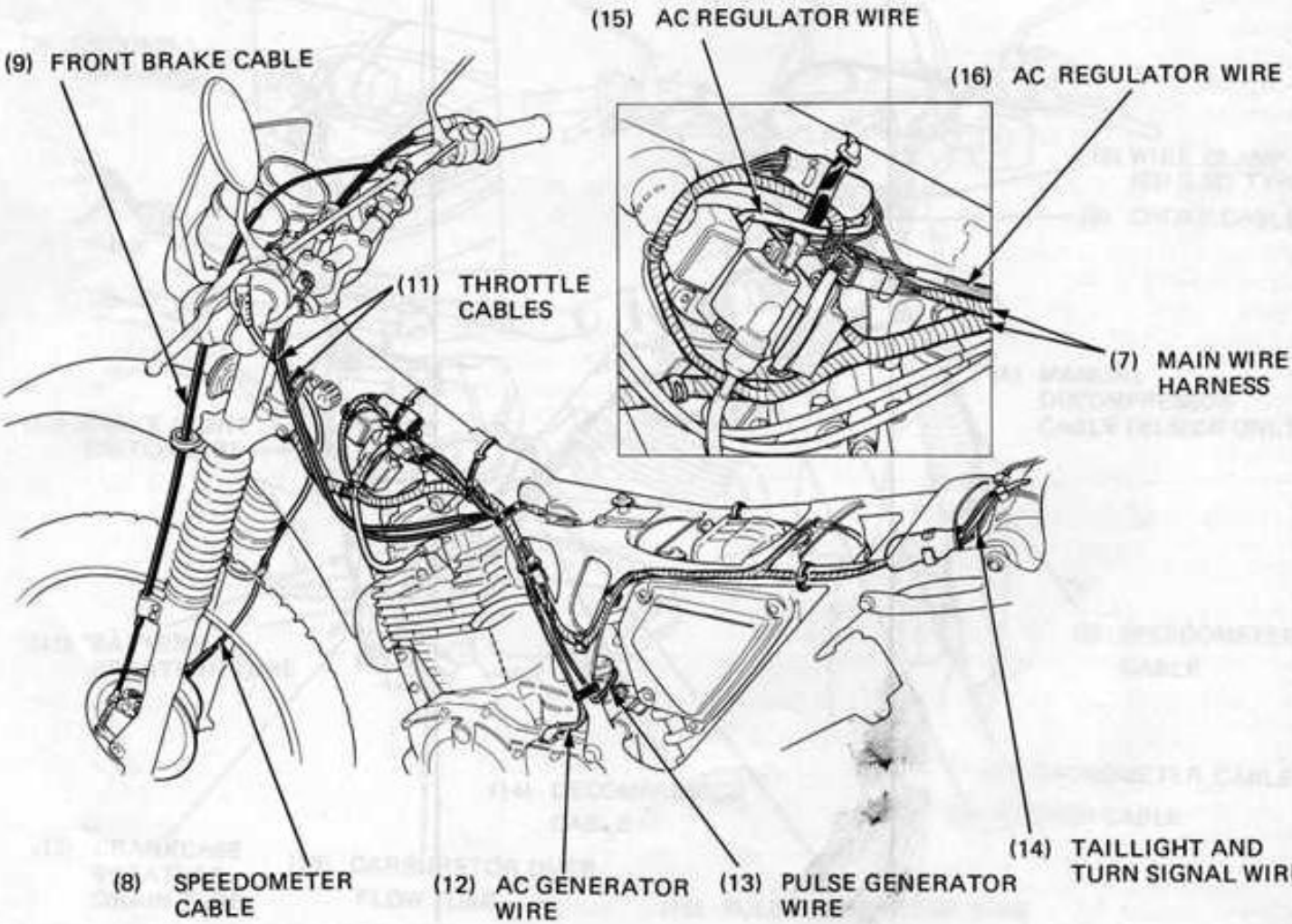
DESCRIPTION	TOOL NO.		REF. PAGE
Seat cutter, 35 mm	07780–0010400	45° EX	(6–14)
Seat cutter, 40 mm	07780–0010500	45° IN	
Seat cutter, 35 mm	07780–0012300	32° EX	
Seat cutter, 38.5 mm	07780–0012400	32° IN	
Seat cutter, 37.5 mm	07780–0014100	60° IN/EX	
Cutter holder, 6.6 mm	07781–0010200	IN/EX	

CABLE AND HARNESS ROUTING









MAINTENANCE SCHEDULE

Perform the PRE-RIDE INSPECTION in the Owner's Manual at each scheduled maintenance period.

I : INSPECT AND CLEAN, ADJUST, LUBRICATE, OR REPLACE IF NECESSARY
C : CLEAN
R : REPLACE
A : ADJUST
L : LUBRICATE

	(A) FREQUENCY / (B) ITEM	(1) WHICHEVER COMES FIRST ➡ / EVERY ⬇	(2) ODOMETER READING (NOTE 5) 1,000 km (600 miles)	6,000 km (3,600 miles)	12,000 km (7,200 miles)	18,000 km (10,860 miles)	24,000 km (14,400 miles)	30,000 km (18,000 miles)	(32) Refer to
*	(3) FUEL LINE			I	I	I	I	I	Page 3–3
*	(4) FUEL STRAINER		C	C	C	C	C	C	Page 22–11
*	(5) THROTTLE OPERATION		I	I	I	I	I	I	Page 3–3
*	(6) CARBURETOR–CHOKE			I	I	I	I	I	Page 3–4
	(7) AIR CLEANER	(33) NOTE 1		C	C	C	C	C	Page 22–12
	(8) CRANKCASE BREATHER	(34) NOTE 2		C	C	C	C	C	Page 22–13
	(9) SPRAK PLUG			I	R	I	R	I	Page 22–13
*	(10) VALVE CLEARANCE		I	I	I	I	I	I	Page 3–6
	(11) ENGINE OIL	(28) YEAR	R	(30) REPLACE EVERY 2,000 mi (3,200 km)					Page 2–3, 22–11
*	(12) OIL FILTER SCREEN		C		C		C		Page 2–4
**	(13) BALANCER CHAIN TENSION		A		A		A		Page 3–7
*	(14) STARTER DECOMPRESSOR		I	I	I	I	I	I	Page 3–8, 22–14
*	(15) CARBURETOR-IDLE SPEED		I	I	I	I	I	I	Page 3–9
	(16) DRIVE CHAIN	(35) NOTE 3	I, L (31) EVERY 1,000 km (600 miles)						Page 22–15
	(17) BATTERY	(29) MONTH	I	I	I	I	I	I	Page 3–13
	(18) BRAKE SHOE WEAR			I	I	I	I	I	Page 3–13
	(19) BRAKE SYSTEM		I	I	I	I	I	I	Page 3–15, 22–16
*	(20) BRAKE LIGHT SWITCH		I	I	I	I	I	I	Page 3–16
*	(21) HEADLIGHT AIM		I	I	I	I	I	I	Page 3–16
	(22) CLUTCH		I	I	I	I	I	I	Page 3–16
	(23) SIDE STAND			I	I	I	I	I	Page 3–17
*	(24) SUSPENSION		I	I	I	I	I	I	Page 3–18, 22–18
*	(25) NUTS, BOLTS, FASTENERS	(36) NOTE 4	I	I	I	I	I	I	Page 3–19
**	(26) WHEELS/SPOKES	(37) NOTE 4	I	I	I	I	I	I	Page 22–19
**	(27) STEERING HEAD BEARING		I		I		I		Page 3–19

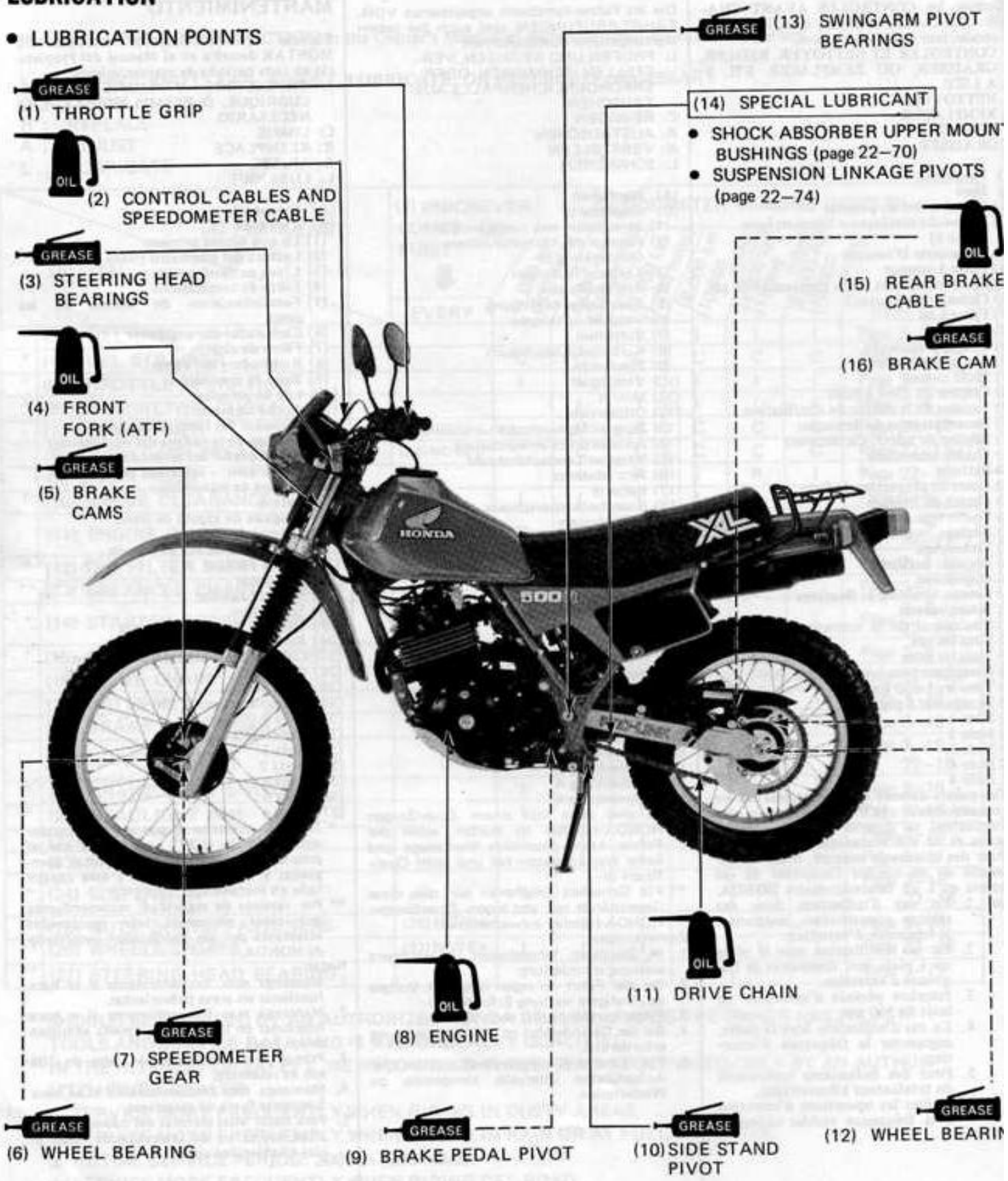
* SHOULD BE SERVICED BY AN AUTHORIZED HONDA DEALER, UNLESS THE OWNER HAS PROPER TOOLS AND SERVICE DATA AND IS MECHANICALLY QUALIFIED.

** IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED ONLY BY AN AUTHORIZED HONDA DEALER.

NOTES:
1. SERVICE MORE FREQUENTLY WHEN RIDING IN DUSTY AREAS.
2. SERVICE MORE FREQUENTLY WHEN RIDING IN RAIN OR AT FULL THROTTLE.
3. INITIAL SERVICE PERIOD: 300 km (200 miles).
4. SERVICE MORE FREQUENTLY WHEN RIDING OFF-ROAD.
5. FOR HIGHER ODOMETER READINGS, REPEAT AT THE FREQUENCY INTERVAL ESTABLISHED HERE.

LUBRICATION

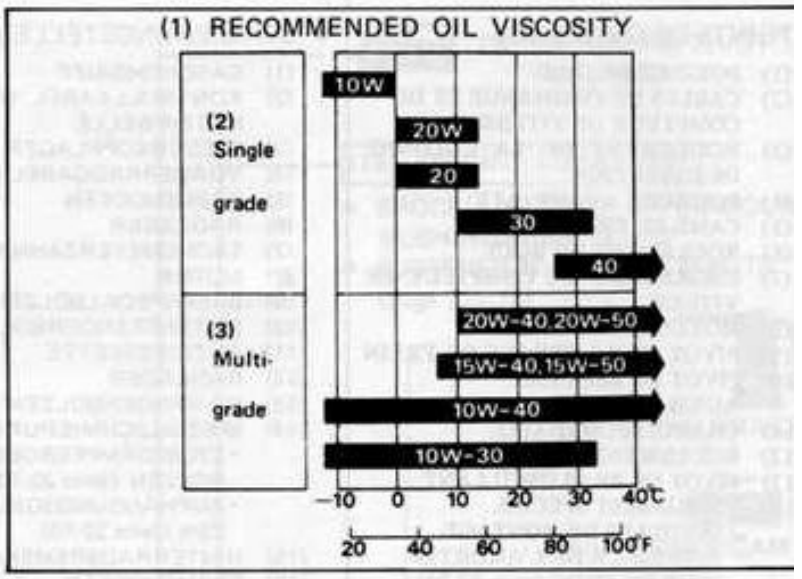
- LUBRICATION POINTS



• ENGINE OIL RECOMMENDATION

API SERVICE CLASSIFICATION: SE or SF

Other viscosities shown in the chart may be used when the average temperature in your riding area is within the indicated range.



INSPECTION AND ADJUSTMENT

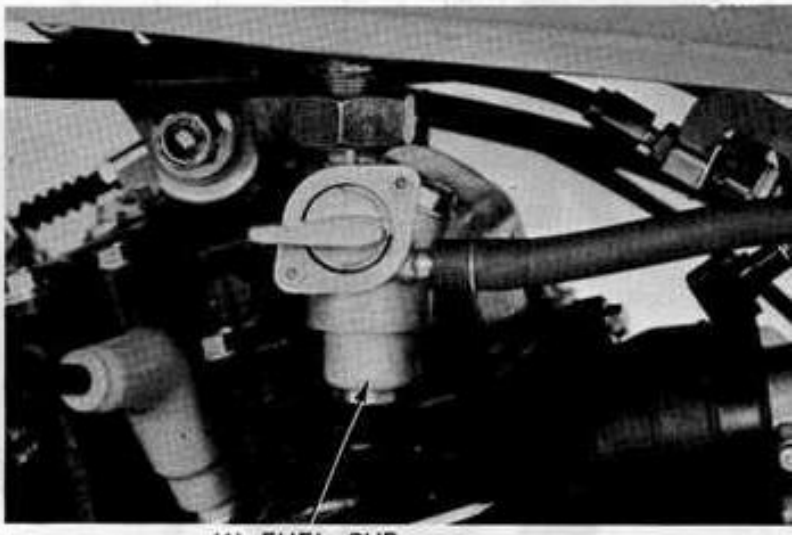
• FUEL STRAINER

Turn the fuel valve OFF.

Remove the fuel cup, O-ring and filter screen, draining the gasoline into a suitable container.

WARNING

Gasoline is flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks near the equipment while draining fuel.



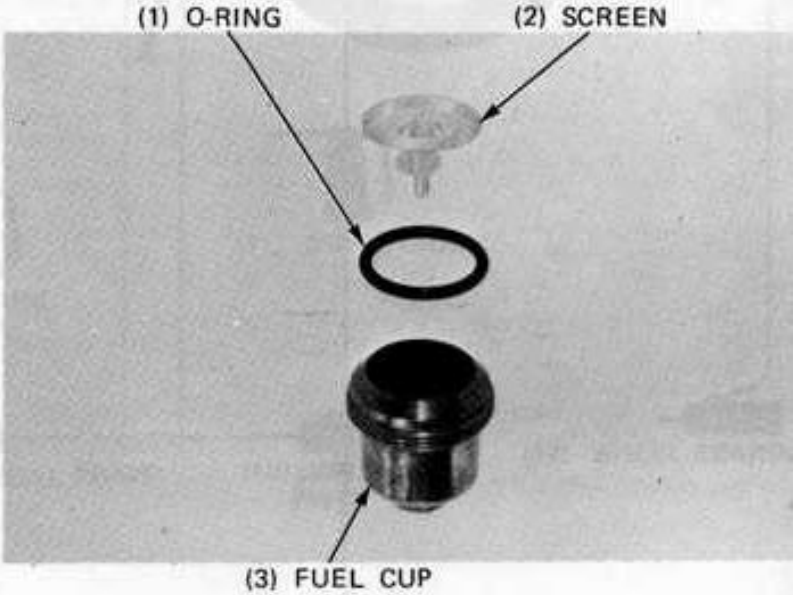
(1) FUEL CUP

Wash the cup and filter screen in clean non-flammable or high flash point solvent.
Reinstall the screen securely, aligning the index marks on the fuel valve body and filter screen.

Install a new O-ring into the fuel valve body.
Reinstall the fuel cup, making sure the new O-ring is in place. Hand tighten the fuel cup and then torque it to specification.

TORQUE: 3–5 N·m (0.3–0.5 kg-m, 2–4 ft-lb)

After installing, turn the fuel valve ON and check that there are no fuel leaks.



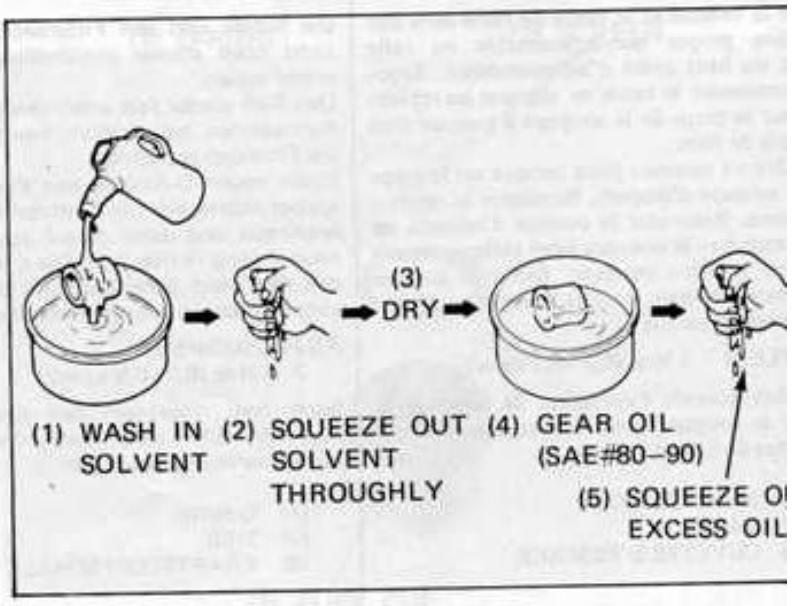
• AIR CLEANER

Remove the left side cover.
Remove the air cleaner cover bolts and the cover.

Remove the wing nut and remove the air cleaner element.

Wash the element in non-flammable or high flash point solvent, and let it dry.
Soak the element in gear oil (SAE #80-90) and squeeze out the excess.

Installation is the reverse order of disassembly.

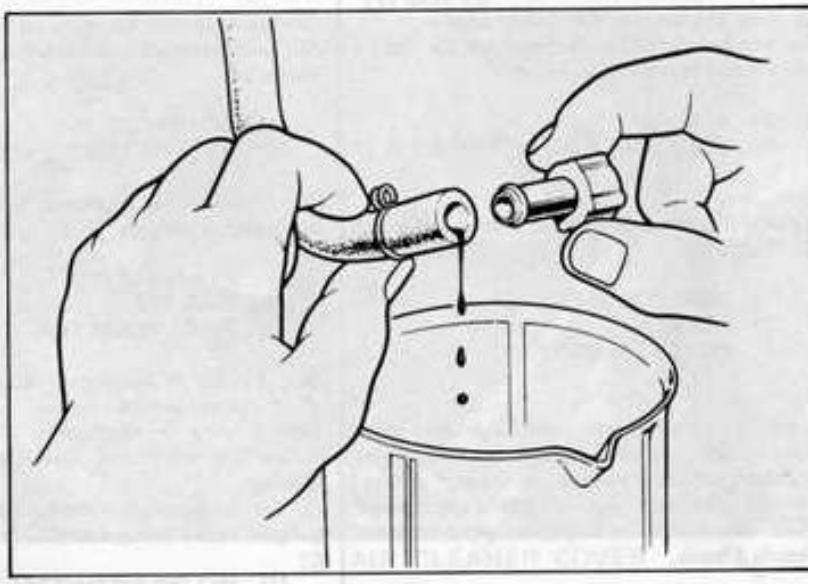


• CRANKCASE BREATHER

Remove the plug from the drain tube to drain deposits.
Install the drain plug.

NOTE

Service more frequently when ridden in rain, or at full throttle or if the deposit level can be seen in the transparent section of the drain tubes.



• SPARK PLUG

Disconnect the spark plug cap and remove the spark plug.

Visually inspect the spark plug electrodes for wear. The center electrode should have a constant thickness. Discard the spark plug if the electrode is worn or if the insulator is cracked or chipped. If the spark plug is in good condition and the deposits can be removed by sandblasting, the spark plug can be reused.

RECOMMENDED SPARK PLUG

	XL400R/XL500R	XL500R U, D type
Standard	DR8ES-L (NGK) or X24ESR-U (ND)	D8EA (NGK) or X24ES-U (ND)
For cold climate (Below 5°C, 41°F)	DR7ES (NGK) or X22ESR-U (ND)	D7EA (NGK) or X22ES-U (ND)
For extended high speed riding	DR8ES (NGK) or X27ESR-U (ND)	D9EA (NGK) or X27ES-U (ND)

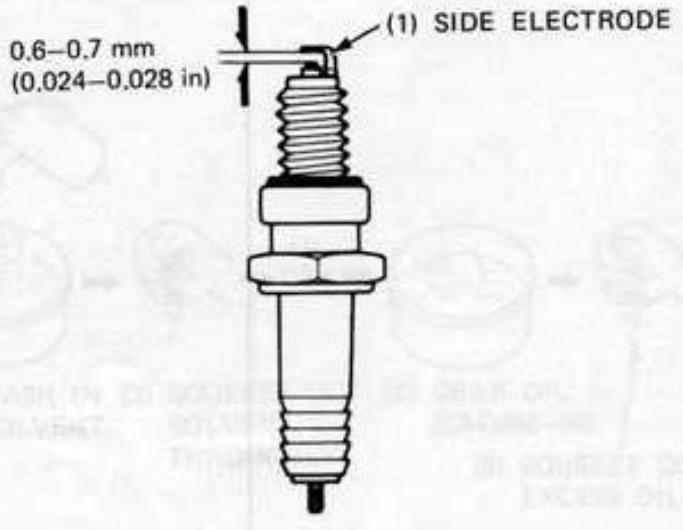
Measure the gap with a wire gauge and adjust it, if necessary, by bending the side electrode.

SPARK PLUG GAP: 0.6–0.7 mm (0.024–0.028 in)

Check the spark plug sealing washer and replace it with a new one if it is damaged.

Install the washer on the spark plug and thread the plug into the head by hand to prevent cross-threading. After hand tightening, tighten the plug an additional 1/2 turn with a spark plug wrench to compress the washer.

Connect the spark plug cap.



• STARTER DECOMPRESSOR (XL500R ONLY)

CAUTION

Adjustment must be made for both the manual and kickstarter decompressor.

NOTE

- Adjust the decompressor linkage after adjusting the valve clearance, (See page 3-6).
- Refer to page 3-8 for the XL400R starter decompressor adjustment.

Loosen the manual decompressor cable lock nut and the adjusting nut to obtain slack.

Disconnect the manual decompressor cable at the decompressor valve lifter lever.

Remove the crankshaft and timing mark hole caps.

Rotate the flywheel counterclockwise to align the T mark with the index mark.

Make sure the piston is at TDC (Top Dead Center) on the compression stroke.

Measure the free play at the tip of the decompressor valve lifter lever.

FREE PLAY: 1–2mm (1/16 in)

To adjust free play, loosen lock nut on kick starter decompressor cable and turn adjusitng nut as equired. Tighten lock nut.

CAUTION

Excessive free play causes hard starting; insufficient free play may cause erratic idling and valve damage.

Operate the kickstarter and check operation of the decompressor mechanism.
Recheck the free play.

Reconnect the manually controlled decompressor valve lifter cable.

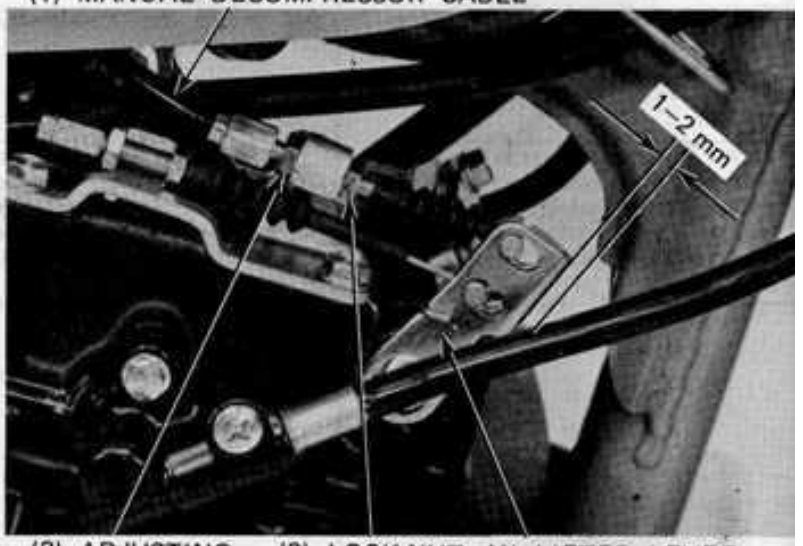
Adjust manual lever free play by turning the adjusting nut.

FREE PLAY: 5–8 mm (3/16–5/16 in)

Tighten the lock nut and recheck free play.

Install the fuel tank, seat, crankshaft and timing hole caps. Make sure that the decompressor cable does not interfere with handlebar rotation.

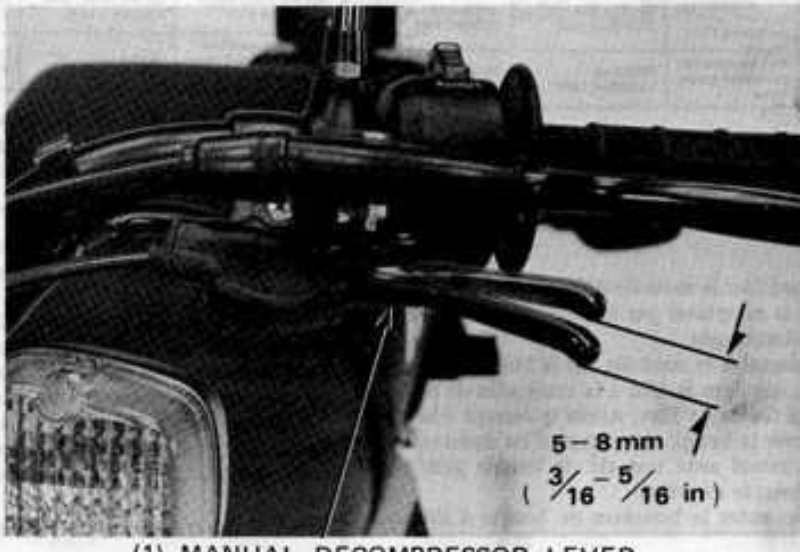
(1) MANUAL DECOMPRESSOR CABLE



(2) ADJUSTING NUT (3) LOCK NUT (4) LIFTER LEVER

(1) INDEX MARK

(2) T MARK



(1) MANUAL DECOMPRESSOR LEVER