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HONDA

SERVICE MANUAL

86-91

CR250R

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IMPORTANT SAFETY NOTICE

WARNING *Indicates a strong possibility of severe personal injury or death if instructions are not followed.*

CAUTION: *Indicates a possibility of personal injury or equipment damage if instructions are not followed.*

NOTE: Gives helpful information.

Detailed descriptions of standard workshop procedures, safety principles and service operations are not included. It is important to note that this manual contains *some* warnings and cations against some specific service methods which could cause **PERSONAL INJURY** to service personnel or could damage a vehicle or render it unsafe. Please understand that those warnings could not cover all conceivable ways in which service, whether or not recommended by Honda might be done or of the possibly hazardous consequences of each conceivable way, nor could Honda investigate all such ways.

Anyone using service procedures or tools, whether or not recommended by Honda *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized by the service methods or tools selected.

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HOW TO USE THIS MANUAL

Follow the Competition Maintenance Schedule recommendations (page 3-2) to ensure that the vehicle is always in peak operating condition.

Sections 1 through 3 apply to the whole motorcycle, while sections 4 through 15 describe parts of the motorcycle, grouped according to location.

Find the section you want on this page, then turn to the table of contents on page 1 of that section.

Most sections start with an assembly or system illustration and specifications, torque values, general instructions, tools and troubleshooting for the section. The subsequent pages give detailed procedures for the section.

If you are not familiar with this motorcycle, read Section 16, Technical features.

If you don't know the source of the trouble, see section 17, Troubleshooting.

CONTENTS

1. GENERAL INFORMATION

GENERAL SAFETY

WARNING

If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in a closed area. The exhaust contains poisonous carbon monoxide gas that may cause loss of consciousness and lead to death.

Brake dust may contain asbestos.

WARNING

Inhaled asbestos fibers have been found to cause respiratory disease and cancer. Never use an air hose or dry brush to clean brake assemblies. Use an OSHA-approved vacuum cleaner or alternate method approved by OSHA designed to minimize the hazard caused by airborne asbestos fibers.

WARNING

Gasoline is extremely flammable and is explosive under certain conditions. Work in a well ventilated area with the engine stopped. Do not smoke or allow flames or sparks in your working area or where gasoline is stored.

The shock absorber has a gas-filled reservoir.

WARNING

- *Use only nitrogen to pressurise the shock absorber. The use of anstable gas can cause a fire or explosion resulting in serious injury.*
- *The rear shock absorber contains nitrogen under high pressure. Do not allow fire or heat near the shock absorber.*
- *Before disposal of the shock absorber, release the nitrogen by pressing the valve core. Then remove the valve from the shock absorber.*

CAUTION

Used transmission oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods.
Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

SERVICE RULES

1. Use genuine HONDA or HONDA-recommended parts and lubricants or their equivalent. Parts that do not meet HONDA's design specifications may damage the motorcycle.
2. Use the special tools designed for this product.
3. Install new gaskets, O-rings, cotter pins, lock plates, etc. when reassembling.
4. When torquing bolts or nuts, begin with larger-diameter or inner bolt first, and tighten to the specified torque, diagonally, in incremental steps unless a particular sequence is specified.
5. Clean parts in non-flammable or high flash point solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
6. When installing a new oil seal, make sure that the sealing lip is lubricated with grease. If an oil seal and related parts have been washed, apply proper grease to the lip of the oil seal.
7. After reassembly, check all parts for proper installation and operation.
8. Use only metric tools when servicing this motorcycle. Metric bolts, nuts, and screws are not interchangeable with any other type of fasteners. The use of incorrect tools and fasteners may damage the motorcycle.

MODEL IDENTIFICATION

'86:

'87:

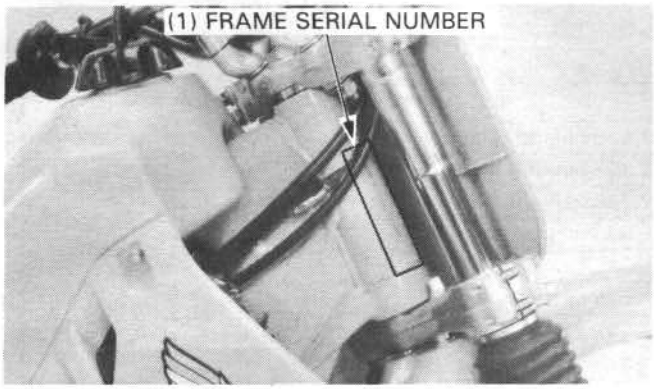
'88:

'89:

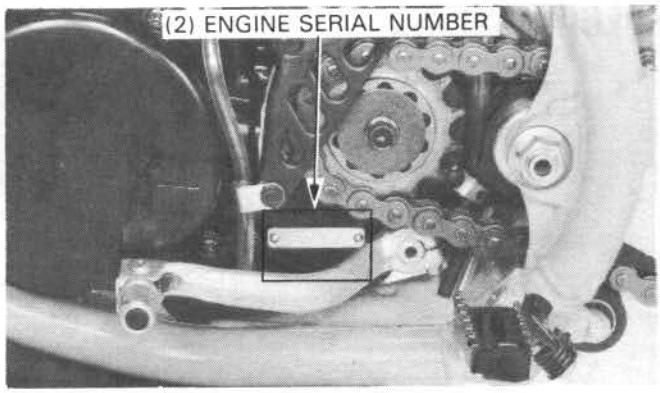
'90:

After '90:

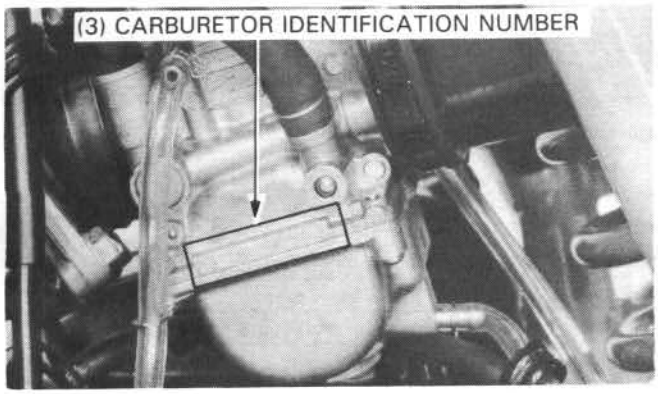
RIDE RED



The frame serial number is stamped on the right side of the steering head.



The engine serial number is stamped on the lower left side of the crankcase.



The carburetor identification number is on the left (After '88: right) side of the carburetor.

SPECIFICATIONS

ITEM			SPECIFICATIONS
Dimension	Overall length	'86, '87, '88:	2,180 mm (85.8 in)
		'89:	2,195 mm (86.4 in)
		After '89:	2,188 mm (86.1 in)
	Overall width	'86, '87, '88:	825 mm (32.5 in)
		After '88:	835 mm (32.9 in)
	Overall height	'86, '87, '88:	1,215 mm (47.8 in)
		'89:	1,253 mm (49.3 in)
		After '89:	1,255 mm (49.4 in)
	Wheelbase	'86, '87, '88:	1,480 mm (58.3 in)
		'89:	1,495 mm (58.9 in)
		After '89:	1,488 mm (58.6 in)
	Seat height	'86:	960 mm (37.8 in)
		'87, '88:	950 mm (37.4 in)
		After '88:	970 mm (38.2 in)
	Foot peg height	'86, '87, '88:	440 mm (17.3 in)
		After '88:	445 mm (17.5 in)
	Ground clearance	'86, '87, '88:	340 mm (13.4 in)
		After '88:	350 mm (13.8 in)
	Dry weight	'86, '87:	97.5 kg (214.9 lb)
		After '87:	97.0 kg (213.8 lb)
Frame	Type		Semi-double cradle
	F. suspension, travel		Telescopic fork, 305 mm (12.0 in)
	R. suspension, travel		Pro-Link, 330 mm (13.0 in)
	F. tire size, pressure		80/100—21 51M, 15 psi (100 kPa, 1.0 kg/cm²)
	R. tire size, pressure		110/100—18 64M, 15 psi (100 kPa, 1.0 kg/cm²)
	F. brake, swept area	'86:	Single disc, 329 cm² (51.0 sq-in)
		After '86:	Single disc, 306 cm² (47.3 sq-in)
	R. brake, lining area	'86:	Internal expanding shoes, 102.1 cm² (15.8 sq-in)
	R. brake, swept area	After '86:	Single disc, 303 cm² (47.0 sq-in)
	Fuel capacity	'86:	7.0 ℓ (1.8 U.S. gal., 1.5 Imp. gal.)
		After '86:	7.5 ℓ (2.0 U.S. gal., 1.6 Imp. gal.)
	Caster angle	'86, '87, '88:	27°30'
		'89:	28°12'
		After '89:	28°03'
	Trail	'86:	112 mm (4.4 in)
		'87, '88:	114 mm (4.5 in)
		'89:	123 mm (4.8 in)
		After '89:	125.5 mm (4.94 in)
	Fork oil capacity (Standard)	'86, '87, '88:	564 cc (19.1 oz)
		'89:	657 cc (22.2 oz)
		'90:	640 cc (21.6 oz)
		After '90:	651 cc (22.0 oz)
Engine	Type		Liquid-cooled, 2-stroke
	Cylinder arrangement		Single 7° inclined from vertical
	Bore and stroke		66.4 x 72.0 mm (2.61 x 2.83 in)
	Displacement		249.3 cm³ (15.2 cu-in)
	Compression ratio	'86:	9.0 : 1
		'87:	9.1 : 1
		'88:	9.0 : 1
		'89:	8.8 : 1
		After '89:	8.5 : 1
	Transmission oil capacity (at disassembly)	'86, '87, '88, '89:	0.6 ℓ (0.63 U.S. qt., 0.53 Imp. qt.)
		After '89:	0.63 ℓ (0.67 U.S. qt., 0.55 Imp. qt.)

RIDE RED

ITEM			SPECIFICATIONS
Carburetor	Type		Piston valve
	Identification number	'86:	PJ23A
		'87:	PJ26A
		'88:	PJ26B
		'89:	PJ26C
		'90:	PJ28A
		After '90:	PJ28C
	Main jet (standard)	'86, '87, After '89:	#175
		'88:	#185
		'89:	#178
	Jet needle and clip position	'86:	R1368N 3rd groove from top
		'87, '88:	R1367N 4th groove from top
		'89:	R1369PS 4th groove from top
		'90:	R1370NS 3rd groove from top
		After '90:	R1369NS 3rd groove from top
	Slow jet (standard)	'86:	#60
		'87:	#58
		'88:	#62
		'89:	#58
		After '89:	#55
	Air screw initial opening	'86:	1-1/2 turns out
		After '86:	2.0 turns out
	Float height		16 mm (0.63 in)
Drive train	Clutch type		Wet, multi-plate type
	Transmission		5-speed, constant mesh
	Primary reduction		3.000 : 1
	Gear ratio I		1.800 : 1 (27/15)
	Gear ratio II	'86, '87:	1.389 : 1 (25/18)
		After '87:	1.470 : 1 (25/17)
	Gear ratio III	'86, '87:	1.150 : 1 (23/20)
		After '87:	1.210 : 1 (23/19)
	Gear ratio IV		1.000 : 1 (21/21)
	Gear ratio V	'86, '87, After '88:	0.869 : 1 (20/23)
		'88:	0.833 : 1 (20/24)
	Final reduction	'86, '87:	3.786 : 1
		After '87:	3.643 : 1
	Gear shift pattern		Left foot operated return system, 1—N—2—3—4—5
Electrical	Ignition		CDI
	Starting system		Kick starter
	Spark plug (Optional)	'86: After '88:	(CHAMPION) QN-86 (QN-2G) (NGK) BR8EG (BR8EV) (ND) W24ESR-V (W24ESR-G)
		'87, '88:	(CHAMPION) QN-84 (QN-59G) (NGK) BR9EG (BR9EV) (ND) W27ESR-V (W27ESR-G)

TORQUE VALUES

ENGINE

Item		Thread dia x pitch	Torque		
			N·m	kg-m	ft-lb
Cylinder head nut		8 x 1.25	24–29	2.4–2.9	17–21
Cylinder nut	'86, '87, '88:	10 x 1.25	38–48	3.8–4.8	27–35
	After '88:	10 x 1.25	35–45	3.5–4.5	25–33
Clutch center nut		18 x 1.0	55–65	5.5–6.5	40–47
			80–84	8.0–8.4	58–61
Clutch spring bolt		6 x 1.0	8–12	0.8–1.2	6–9
Primary drive gear bolt		10 x 1.25	40–50	4.0–5.0	29–36
*Gearshift drum center pin		8 x 1.25	20–24	2.0–2.4	14–17
Transmission oil drain bolt		12 x 1.5	25–35	2.5–3.5	18–25
*Countershaft bearing set plate		6 x 1.0	8–12	0.8–1.2	6–9
Alternator cover screw		6 x 1.0	3–5	0.3–0.5	2–4
Flywheel nut		12 x 1.25	50–60	5.0–6.0	36–43
Drive sprocket bolt		8 x 1.25	25–29	2.5–2.9	18–21
Water pump impeller		7 x 1.25	10–14	1.0–1.4	7–10
Right crankcase cover bolt		6 x 1.0	8–12	0.8–1.2	6–9
Rocker arm holder screw		5 x 1.0	6–8	0.6–0.8	4–6
Exhaust valve rack hole plug		8 x 1.25	8–12	0.8–1.2	6–9
Exhaust valve adjusting screw lock nut ('86, '87, After '89)		5 x 1.0	6–8	0.6–0.8	4–6
Gearshift drum stopper arm bolt		6 x 1.0	10–14	1.0–1.4	7–10
Cylinder stud bolt		10 x 1.25	10–14	1.0–1.4	7–10
Cylinder coolant drain bolt		6 x 1.0	8–12	0.8–1.2	6–9
Water pump cover coolant drain bolt		6 x 1.0	8–12	0.8–1.2	6–9
Spark plug		14 x 1.25	15–20	1.5–2.0	11–14
Oil check bolt		6 x 1.0	8–12	0.8–1.2	6–9
Exhaust valve adjusting bolt lock nut		5 x 0.8	5–7	0.5–0.7	4–5
Water pump cover bolt (After '88)		6 x 1.0	10–14	1.0–1.4	7–10
Cylinder and exhaust valve cover bolt (After '88)		6 x 1.0	10–14	1.0–1.4	7–10

*: Apply Honda Thread Lock or an equivalent.

FRAME

Item		Thread dia x pitch	Torque		
			N·m	kg-m	ft-lb
Steering stem nut	'86, '87, '88, After '89:	24 x 1.5	95–140	9.5–14.0	69–101
	'89:	24 x 1.0	95–140	9.5–14.0	69–101
Steering head adjusting nut	'86, '87, '88:	26 x 1.5	1–2	0.1–0.2	0.7–1.4
	'89:	26 x 1.0	1–2	0.1–0.2	0.7–1.4
	After '89:	26 x 1.5	8–12	0.8–1.2	6–9
Fork tube pinch bolt (Top)	'86, '87, '88, '89:**	8 x 1.25	18–25	1.8–2.5	13–18
	After '89:**	8 x 1.25	30–34	3.0–3.4	22–25
(Bottom)	'86, '87, '88, '89:**	8 x 1.25	18–25	1.8–2.5	13–18
	After '89:**	8 x 1.25	24–30	2.4–3.0	17–22
Handlebar upper holder		8 x 1.25	18–25	1.8–2.5	13–18
Handlebar lower holder nut	'86, '87, '88:	10 x 1.25	30–40	3.0–4.0	22–29
Front axle	'86, '87, '88, '89:	12 x 1.25	55–70	5.5–7.0	40–51
	After '89:	16 x 1.5	80–93	8.0–9.3	58–67
Front axle holder		6 x 1.0	10–12	1.0–1.2	7–9
Rear axle nut		18 x 1.5	85–105	8.5–10.5	61–76
Engine hanger bolt (10 mm)		10 x 1.25	38–48	3.8–4.8	27–35
(8 mm)		8 x 1.25	24–29	2.4–2.9	17–21
Engine mounting bolt	'86, '87, '88, '89:	10 x 1.25	38–48	3.8–4.8	27–35
	After '89:	10 x 1.25	60–70	6.0–7.0	43–51
Driven sprocket	'86, '87, '88, '89:	8 x 1.25	32–37	3.2–3.7	23–27
	After '89:**	8 x 1.25	25–31	2.5–3.1	18–22

**: Apply oil to the threads.

RIDE RED

Item		Thread dia x pitch	Torque		
			N•m	kg-m	ft-lb
Shock absorber (upper)		10 x 1.25	40–50	4.0–5.0	29–36
(lower)		10 x 1.25	38–48	3.8–4.8	27–35
Front/rear spoke		BC. 3.5/BC. 4.0	2.5–5.0	0.25–0.50	1.8–3.6
Swingarm pivot bolt	'86, '87:	15 x 1.5	80–100	8.0–10.0	58–72
	After '87:	16 x 1.5	80–100	8.0–10.0	58–72
Fork boot clamp screw ('86, '87, '88)		3.5 x 0.6	0.8–1.6	0.08–0.16	0.6–1.2
Fork cap bolt	'86, '87, '88:	39 x 1.0	15–30	1.5–3.0	11–22
	After '88:	50 x 1.5	30–40	3.0–4.0	22–29
Fork drain bolt ('86, '87, '88)		6 x 1.0	6–9	0.6–0.9	4–7
Shock arm (swingarm side)		12 x 1.25	55–70	5.5–7.0	40–51
(shock link side)	'86, '87, '88:	10 x 1.25	40–50	4.0–5.0	29–36
	After '88:	12 x 1.25	55–70	5.5–7.0	40–51
Shock link (frame side)	'86, '87, '88:	10 x 1.25	40–50	4.0–5.0	29–36
	After '88:	12 x 1.25	55–70	5.5–7.0	40–51
Fork center bolt	'86, '87, '88:	14 x 1.0	30–40	3.0–4.0	22–29
	'89:	22 x 1.0	40–45	4.0–4.5	29–33
	'90:	22 x 1.0	50–55	5.0–5.5	36–40
	After '90:	14 x 1.0	40–50	4.0–5.0	29–36
Shock absorber lock nut		56 x 1.5	80–100	8.0–10.0	58–72
Fork cap lock nut	'86:	10 x 1.0	12–15	1.2–1.5	9–11
	'87, '88, '89, '90:	10 x 1.0	17.5–22.5	1.75–2.25	12.7–16.3
	After '90:	12 x 1.0	20–24	2.0–2.4	14–17
Fork piston retainer ('86, '87, '88)		22 x 1.0	3–6	0.3–0.6	2.2–4.3
Fork protector bolt (After '88)		6 x 1.0	12–14	1.2–1.4	9–10
Front/rear rim lock		8 x 1.25	10–15	1.0–1.5	7–11
Front/rear brake disc retaining bolt	'86, '87, '88, '89:	6 x 1.0	14–16	1.4–1.6	10–12
	After '89:	8 x 1.25	40–45	4.0–4.5	29–33
Front wheel hub cover ('86, '87, '88, '90)		4 x 0.7	1.0–2.0	0.1–0.2	0.7–1.4
	After '90	4 x 0.7	0.5–1.0	0.05–0.1	3.6–0.7
Brake hose joint (master cylinder side)		10 x 1.25	30–40	3.0–4.0	22–29
Brake hose joint nut (brake hose side)		10 x 1.25	12–15	1.2–1.5	9–11
Brake hose bolt (caliper)	'86, '89, After '89:	10 x 1.25	30–40	3.0–4.0	22–29
	'87, '88:	10 x 1.25	25–35	2.5–3.5	18–25
Front master cylinder holder bolt		6 x 1.0	8–12	0.8–1.2	6–9
Brake lever pivot bolt		6 x 1.0	8–12	0.8–1.2	6–9
Brake lever pivot lock nut		6 x 1.0	8–12	0.8–1.2	6–9
Brake lever adjuster lock nut		5 x 0.5	5–7	0.5–0.7	3.6–5
Clutch lever pivot bolt		6 x 1.0	1–3	0.1–0.3	0.7–2.2
Clutch lever pivot lock nut		6 x 1.0	8–12	0.8–1.2	6–9
Throttle housing cover screw		4 x 0.7	1–2	0.1–0.2	0.7–1.4
Gearshift pedal pinch bolt		6 x 1.0	10–14	1.0–1.4	7–10
Kickstarter pedal bolt		8 x 1.25	24–30	2.4–3.0	17–22
Seat mounting bolt		8 x 1.25	18–25	1.8–2.5	13–18
Sub-frame mounting bolt		8 x 1.25	18–25	1.8–2.5	13–18
	After '90	8 x 1.25	24–30	2.4–3.0	17–22
Shock absorber banjo bolt ('86)		10 x 1.0	27.5–32.5	2.75–3.25	20–24
Brake caliper bleed valve		8 x 1.25	4–7	0.4–0.7	3–5
Clutch lever holder bolt		6 x 1.0	8–12	0.8–1.2	6–9
Throttle housing bolt		6 x 1.0	8–12	0.8–1.2	6–9
Rear brake torque arm bolt ('86)		8 x 1.25	18–25	1.8–2.5	13–18
Rear brake master cylinder mounting bolt (After '86)		6 x 1.0	14–16	1.4–1.6	10–12
Brake pedal pivot bolt	'86:	8 x 1.25	18–25	1.8–2.5	13–18
	After '86:	8 x 1.25	24–28	2.4–2.8	17–20
Silencer case bolt (After '86)		5 x 0.8	4.5–6.0	0.45–0.60	3.3–4.3
Pad pin plug (After '86)		10 x 1.0	2–3	0.2–0.3	1.4–2.2
Rear disc guard screw (After '86)		6 x 1.0	6–8	0.6–0.8	4–6
Front brake caliper mounting bolt	'86, '87, '88:	8 x 1.25	20–30	2.0–3.0	14–22
	'89:	8 x 1.25	32–36	3.2–3.6	23–26
	'90:	8 x 1.25	24–30	2.4–3.0	17–22
	After '90:**	8 x 1.25	28–34	2.8–3.4	20–25
Front caliper pin bolt ('86): upper		8 x 1.25	20–25	2.0–2.5	14–18
: lower		8 x 1.25	15–20	1.5–2.0	11–14
(After '86): upper*		8 x 1.25	20–25	2.0–2.5	14–18
: lower*		8 x 1.25	10–15	1.0–1.5	7–11
Rear caliper pin bolt ('87, '88, '89): front side*		8 x 1.25	20–25	2.0–2.5	14–18
(After '89): front side*		12 x 1.25	25–30	2.5–3.0	18–22
: rear side*		8 x 1.25	10–15	1.0–1.5	7–11
Brake caliper pad pin		10 x 1.0	15–20	1.5–2.0	11–14

* : Apply Honda Thread Lock or an equivalent.

**: Apply oil to the threads.

(cont'd)

Item		Thread dia x pitch	Torque		
			N·m	kg-m	ft-lb
Shock absorber drain bolt ('87)		6 x 1.0	12–15	1.2–1.5	9–11
Shock absorber compression damping valve		22 x 1.0	15–20	1.5–2.0	11–14
	After '90:	24 x 1.0	18–22	1.8–2.2	13–16
Drive chain tensioner roller bolt	'86:	8 x 1.25	24–30	2.4–3.0	17–22
	After '86:	8 x 1.25	18–25	1.8–2.5	13–18
Rear damper rod nut		12 x 1.25	35–40	3.5–4.0	25–29
	After '90:	12 x 1.5	24–30	2.4–3.0	17–21
Chain guide slider	'86, '87, '88, '89:	6 x 1.0	2–3	0.2–0.3	1.4–2.2
	After '89:	6 x 1.0	10–14	1.0–1.4	7–10
Engine stop switch screw		4 x 0.7	1–2	0.1–0.2	0.7–1.4
Front brake hose guide bolt (After '87)		6 x 1.0	4.5–6	0.45–0.60	3.3–4.3

The torque values listed above are for the most important tightening points. If a torque specification is not listed, use the standards given on this page.

STANDARD TORQUE VALUES

SH TYPE: 6mm flange bolt with 8 mm head

Size	Torque			Size	Torque		
	N·m	kg-m	ft-lb		N·m	kg-m	ft-lb
5 mm bolt and nut	4.5–6	0.45–0.6	3–4.3	5 mm screw	3.5–5	0.35–0.5	2.5–3.6
6 mm bolt and nut	8–12	0.8–1.2	6–9	6 mm screw and flange bolt (SH TYPE)	7–11	0.7–1.1	5–7.9
8 mm bolt and nut	18–25	1.8–2.5	13–18	6 mm flange bolt and nut	10–14	1.0–1.4	7–10
10 mm bolt and nut	30–40	3.0–4.0	22–29	8 mm flange bolt and nut	24–30	2.4–3.0	17–21
12 mm bolt and nut	50–60	5.0–6.0	36–43	10 mm flange bolt and nut	35–45	3.5–4.5	25–33

TOOLS

SPECIAL

Description	Tool No.	Alternative	Tool No.	Ref. page
Universal bearing puller	07631–0010000	Equivalent commercially available in U.S.A.		9-8
Snap ring pliers	07914–3230001			13-9, 14, 15
Steering stem socket	07916–KA50100			11-45, 46
Bearing remover	07936–3710300			9-10
Remover handle	07936–3710100			9-10
Remover weight	07741–0010201	Slider weight	07936–3710200	9-10
Bearing remover set, 12 mm	07936–1660001	Not available in U.S.A.		10-6
– Remover weight	07741–0010201	Slider weight	07936–3710200	10-6
– Remover assy, 12 mm	07936–1660101	Remover handle assy	07936–1660100	10-6
– Remover head, 12 mm	07936–1660110			10-6
– Remover shaft	07936–1660120			10-6
Attachment, 28 x 30 mm	07946–1870100			10-6, 7 12-52 (After '88)
Crankcase puller	07937–4300000			9-4
Water seal driver	07945–KA30000	Mechanical seal installer	GN-AH-065-415	10-7
Bearing race remover ('86, '87)	07953–4250002	Bearing race remover	07953–MJ1000A (U.S.A. only)	11-46
Steering stem driver	07946–4300101	Steering stem driver attachment	07946–MB00000 GN-HT54 (U.S.A. only)	11-46
Needle bearing driver ('86, '87, After '88)	07946–KA50000			12-44, 45, 52
Fork seal driver attachment ('86, '87, '88)	07947–KA40200			11-28
Fork seal driver ('86, '87, '88)	07947–KA50100			11-28
Assembly bolt	07965–1660200			9-12, 13
Assembly collar	07965–1660301			9-12, 13
Threaded adaptor	07965–KA30000			9-12

RIDE RED

Description	Tool No.	Alternative	Tool No.	Ref. page
Slider guide, 14 mm	07974—KA40001			12-31
Slider guide attachment	07974—KA50101	Not available in U.S.A.		12-24
Piston base	07958—3000000			12-25
Sleeve collar	07974—KA30201			12-24
Bearing remover, 7 mm	07931—KA30000			10-6
Bearing driver, 7 mm	07946—KA30100			10-6
Spherical bearing driver, 14 mm ('86, '87, '88)	07946—KA30200			12-50, 51, 52, 53
Bearing retainer wrench ('87, '88)	07HMA—KS70100			12-10, 13
Spherical bearing driver ('86, '87, After '88)	07GMF—KS70100	Not available in U.S.A.	07HMF—KS60100	12-40, 54
Retainer wrench ('86, '87, '88)	07GMA—KS70100			11-18, 27
Pin spanner A	89201—KS6—810	Use two pin spanners for After '86:		12-19, 39
Pin spanner B ('86)	89202—KS6—810			12-19, 39
Driver head (After '87)	07946—KM40701	Driver head	07946—KM40700	12-45, 52
Driver shaft (After '87)	07946—MJ00100			12-45, 50, 52
Bearing race remover (After '87)	07948—4630100			11-46
Bearing remover set (After '88)	07936—3710001			12-52
— Remover handle	07936—3710100			12-52
— Bearing remover	07936—3710600			12-52
— Remover weight	07741—0010201	Slider weight	07936—3710200	12-52
Oil seal driver	07KMD—KZ30100	*Fork seal dirver	07KMD—KZ3010A	11-32
Fork slider spacer	07KMZ—KZ30101	*Fork slider spacer	07KMZ—KZ3010A	11-18, 21, 33, 39
Seal case holder	07KMB—KZ30200	Attachment	07965—MA60000	11-23, 32, 37, 38
Cylinder holder	07KMB—KZ30100	*Cylinder holder	07KMB—KZ3010A	11-19, 33

The tools marked "*": U.S.A. only

COMMON

Description	Tool No.	Alternative	Tool No.	Ref. page
Float level gauge	07401—0010000			4-11
Spoke wrench C, 5.8 x 6.1 mm	07701—0020300	Equivalent commercially available in U.S.A.		
Spoke wrench, 6.5 mm	07701—0020400			
Bearing retainer wrench B ('86, After '88)	07710—0010200			12-10, 13
Retainer wrench body	07710—0010401			12-10, 13
Socket wrench, 30 x 32 mm	07716—0020400	Equivalent commercially available in U.S.A.		11-45, 47
Extension bar	07716—0020500			11-45, 47
Universal holder	07725—0030000			9-3, 13 15-3, 4
Clutch center holder	07724—0050001			8-5, 9
Gear holder	07724—0010100	Equivalent commercially available in U.S.A.		9-3, 14
Flywheel puller	07733—0010000	Flywheel puller	07933—0010000	15-3
Attachment, 37 x 40 mm	07746—0010200			9-11
Pilot, 17 mm	07746—0040400			9-11, 11-12, 12-51
Pilot, 25 mm	07746—0040600			9-11
Pilot, 20 mm	07746—0040500			12-12, 45, 52
Attachment, 42 x 47 mm	07746—0010300			9-11, 11-46, 12-12
Pilot, 22 mm	07746—0041000			9-11 ('86, '87), 12-46, 52

(cont'd)

COMMON (CONT'D)

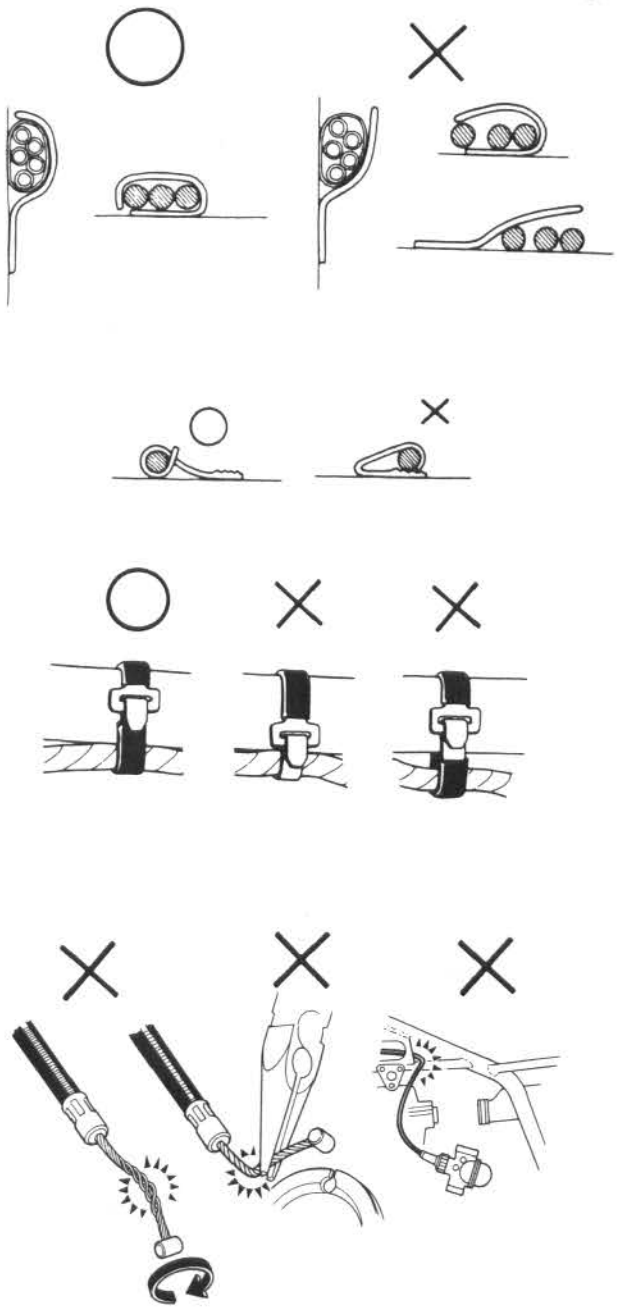
Description	Tool No.	Alternative	Tool No.	Ref. page
Attachment, 52 x 55 mm	07746–0010400			9-11, 11-23, 37, 46
Attachment, 62 x 68 mm	07746–0010500			9-10
Pilot, 28 mm	07746–0041100			9-10
Driver	07749–0010000			9-10, 11, 10-5, 6, 11-12, 46, 12-12, 45, 46, 50, 51, 52
Bearing remover shaft	07746–0050100	Equivalent commercially available in U.S.A.		11-10, 12-10
Bearing remover head, 17 mm	07746–0050500			11-10
Bearing remover head, 20 mm	07746–0050600			12-10
Pilot, 12 mm	07746–0040200			10-5, 6
Driver B	07746–0020100			12-30
Attachment, 17 mm I.D. ('86)	07746–0020300			12-30
Attachment, 20 mm I.D. (After '86)	07746–0020400			12-30
Attachment, 24 x 26 mm	07746–0010700			12-50, 51, 52
Attachment, 32 x 35 mm	07746–0010100			11-12, 12-45, 46

RIDE RED

CABLE AND HARNESS ROUTING

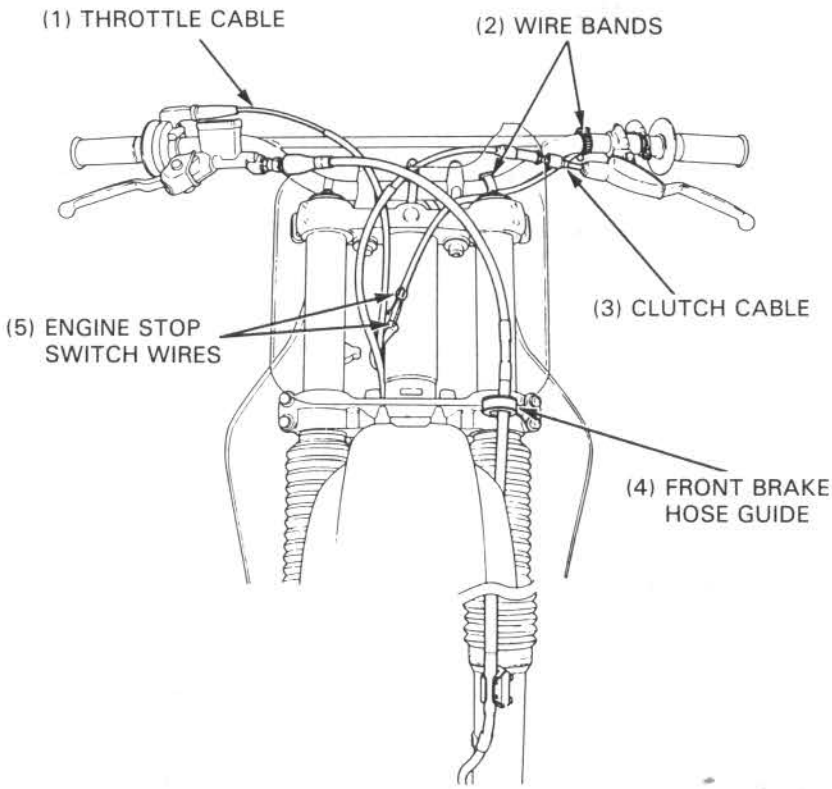
Note the following when routing cable and wire harnesses.

- A loose wire, harness or cable can be a safety hazard. After clamping, check each wire to be sure it is secure.
- Do not squeeze wires against the weld or end of its clamp when a weld-on clamp is used.
- Secure wires and wire harnesses to the frame with their respective wire bands at the designated locations. Tighten the bands so that only the insulated surfaces contact the wires or wire harnesses.
- Route harnesses so they are neither pulled taut nor have excessive slack.
- Route wire harnesses to avoid sharp edges or corners. Also avoid the projected ends of bolts and screws.
- Proctect wires and harnesses with electrical tape or tubes if they do contact a sharp edge or corner. Clean the attaching surface thoroughly before applying tape.
- Do not use wires or harnesses with broken insulators. Repair by wrapping them with protective tape, or replace them.
- Keep wire harnesses away from the exhaust pipes and other hot parts.
- Be sure grommets are seated in their grooves properly.
- After clamping, check each harness to be certain that it is not interfering with any moving or sliding parts.
- Wire harnesses routed along the handlebar should not be pulled taut, have excessive slack, be pinched, or interfere with adjacent or surrounding parts in all steering positions.
- After routing, check that the wire harnesses are not twisted or kinked.
- Do not bend or twist control cables. Damaged control cables will not operate smoothly and may stick or bind.



O: CORRECT
× : INCORRECT

'86:



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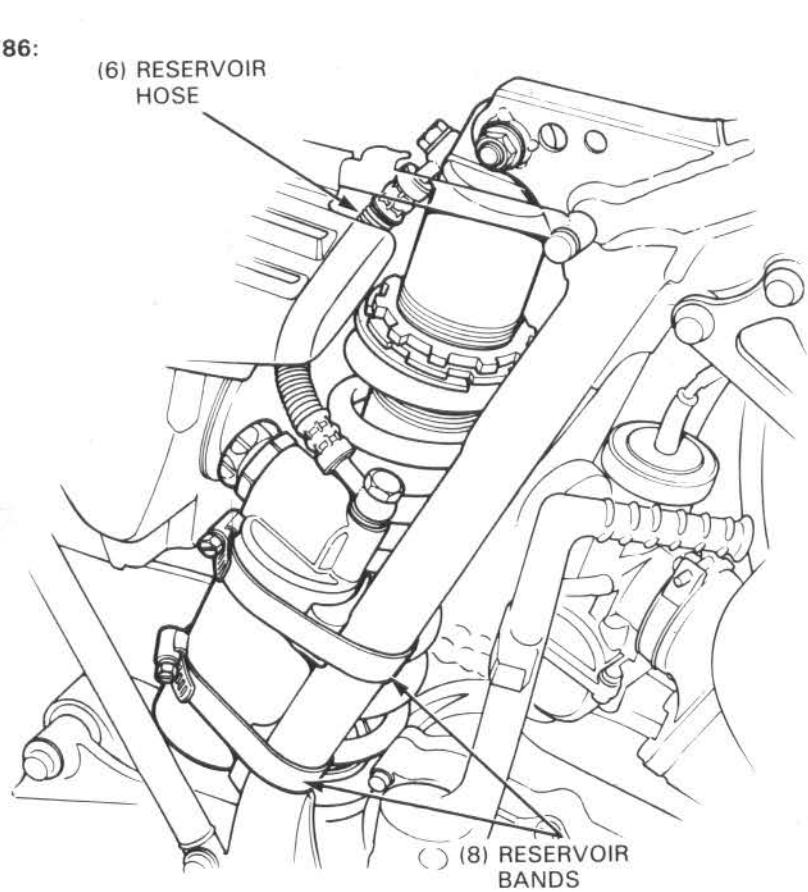
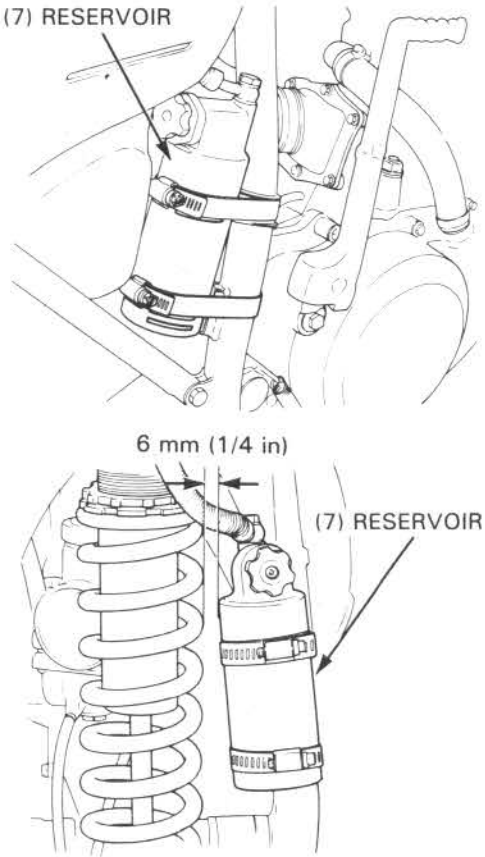
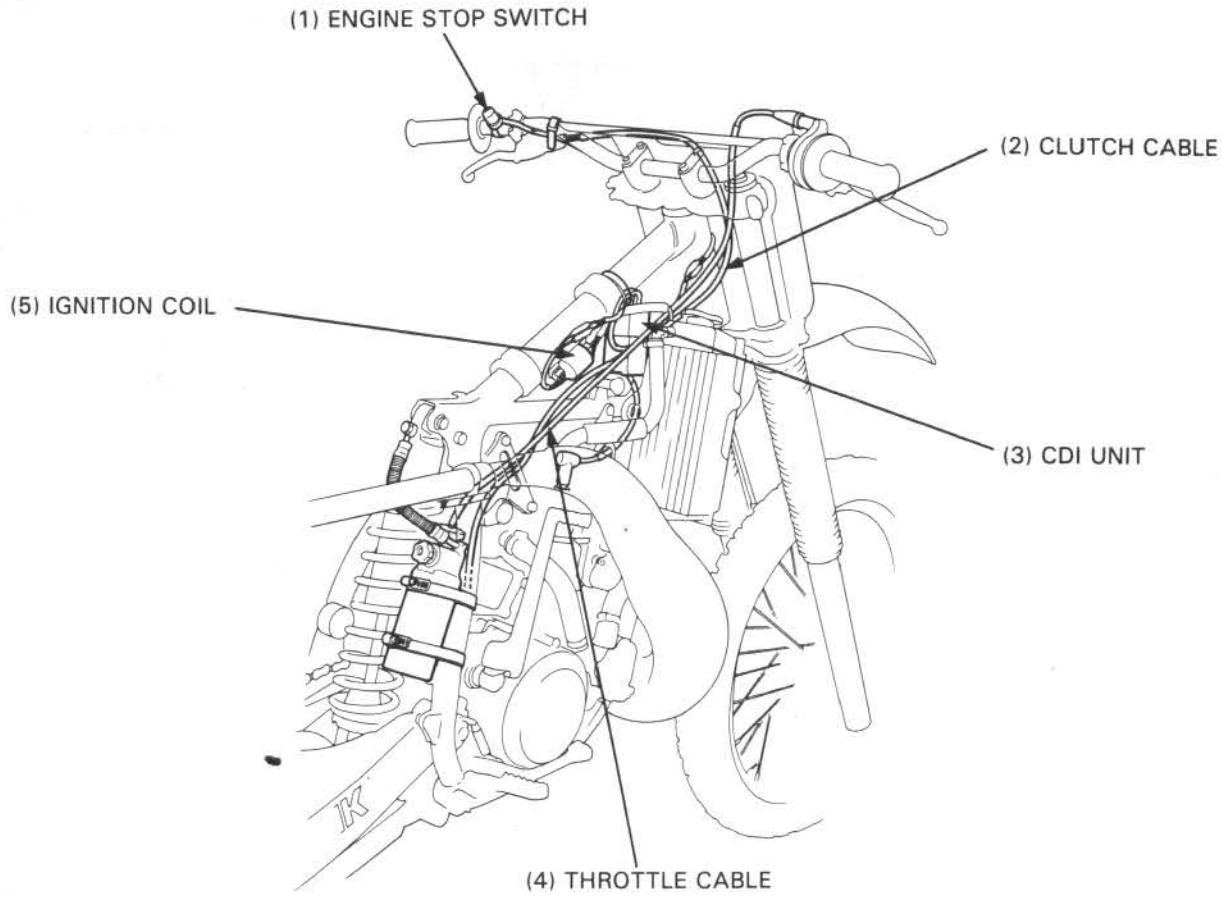
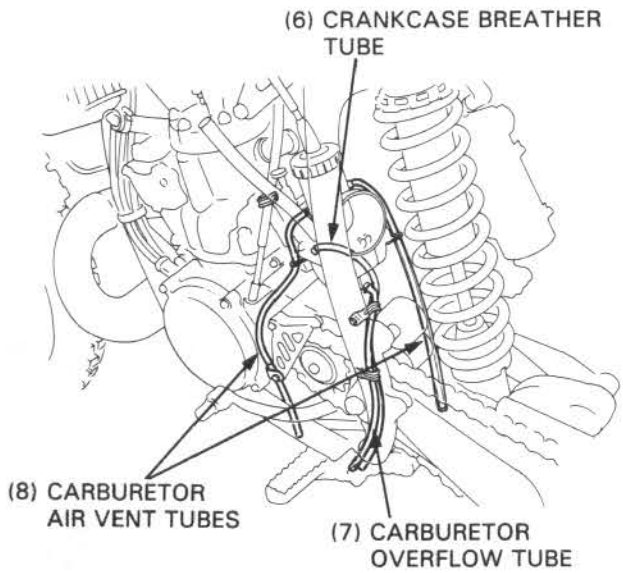


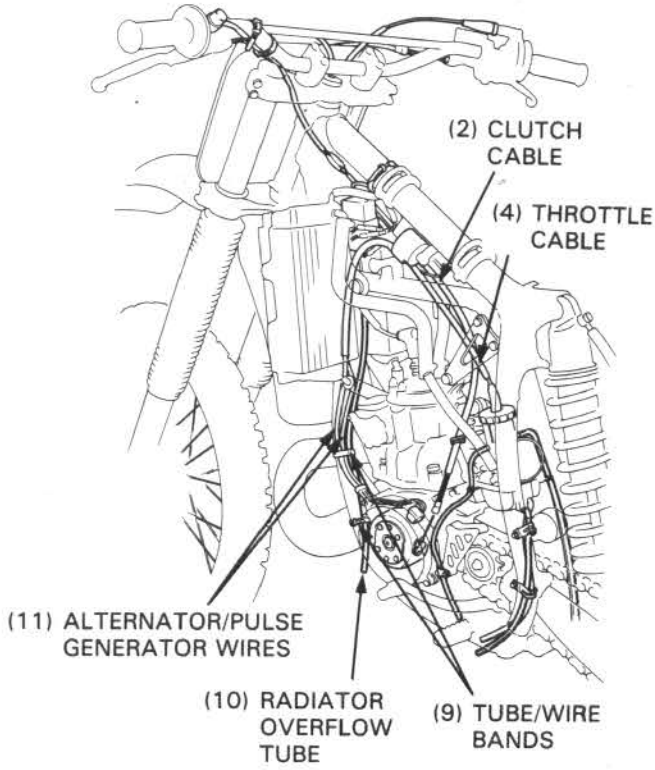


RIDE RED

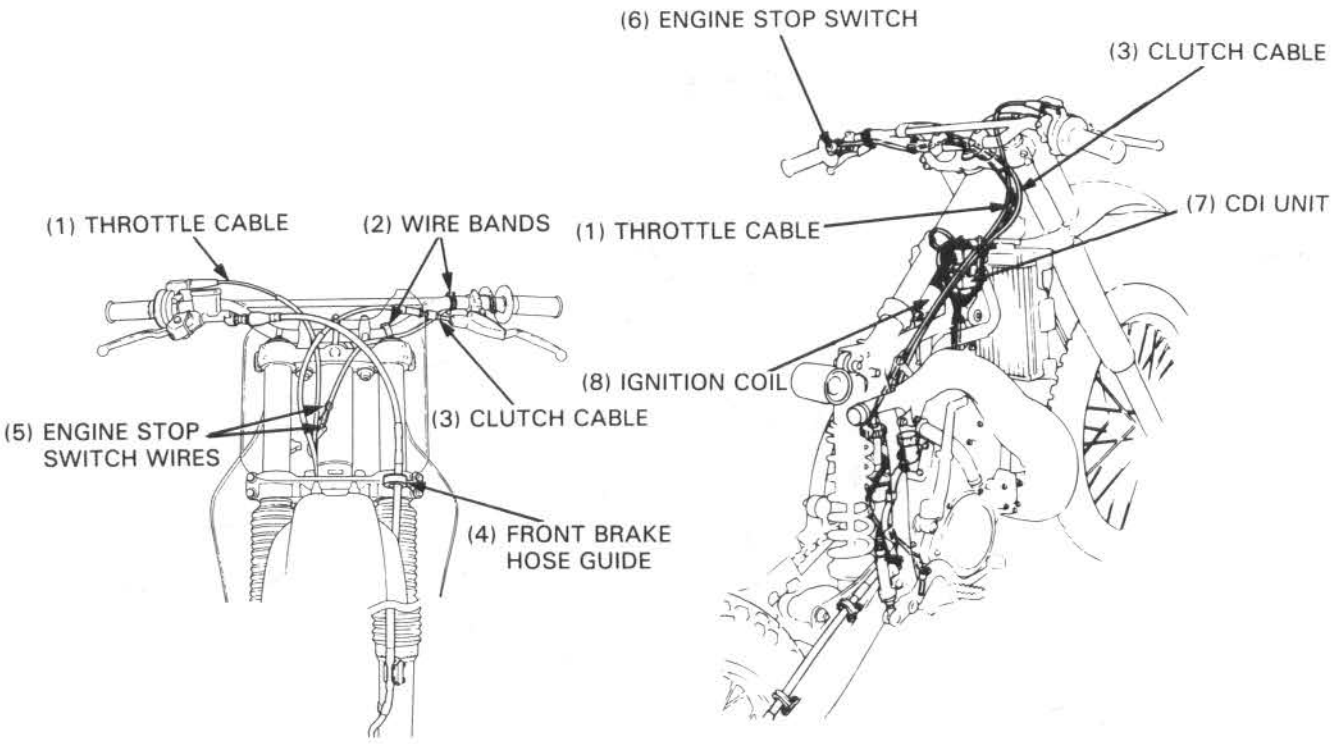
'86:

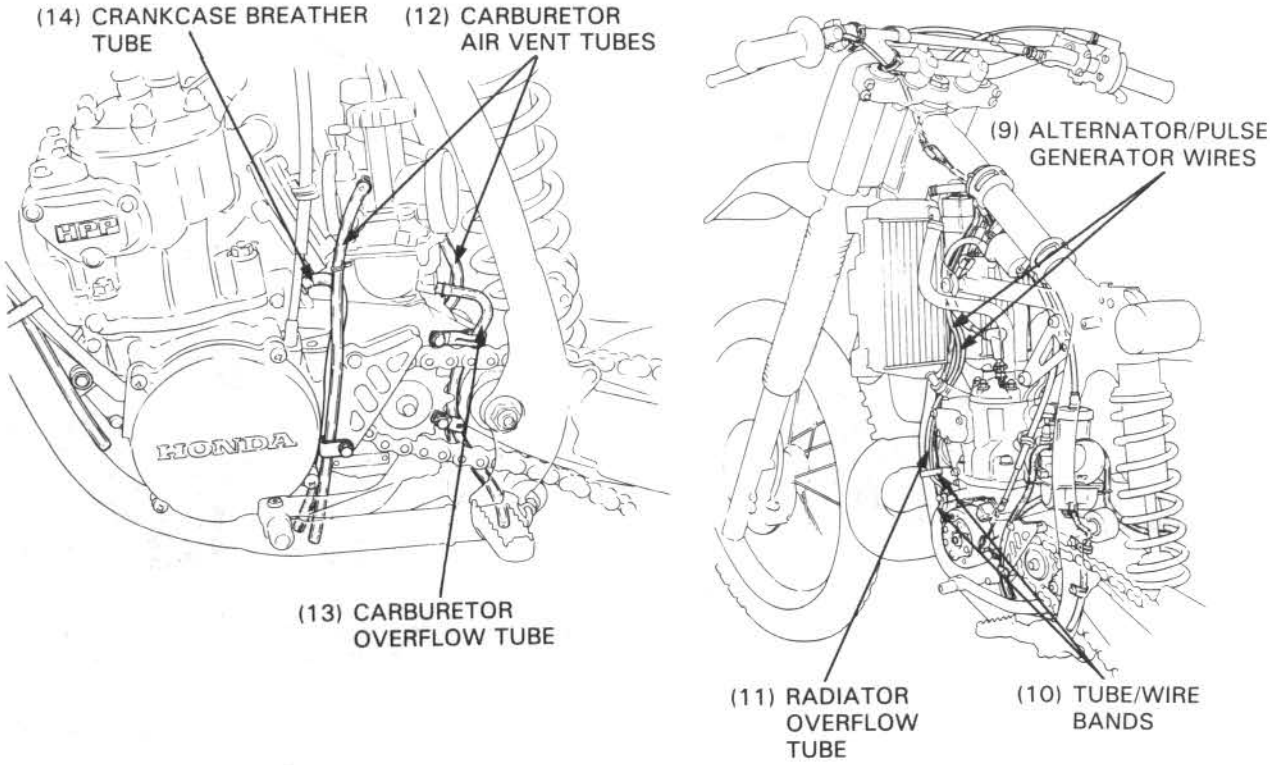

(1) ENGINE STOP SWITCH
(2) CLUTCH CABLE
(5) IGNITION COIL
(3) CDI UNIT
(4) THROTTLE CABLE


(6) CRANKCASE BREATHER TUBE
(8) CARBURETOR AIR VENT TUBES
(7) CARBURETOR OVERFLOW TUBE


(2) CLUTCH CABLE
(4) THROTTLE CABLE
(11) ALTERNATOR/PULSE GENERATOR WIRES
(10) RADIATOR OVERFLOW TUBE
(9) TUBE/WIRE BANDS

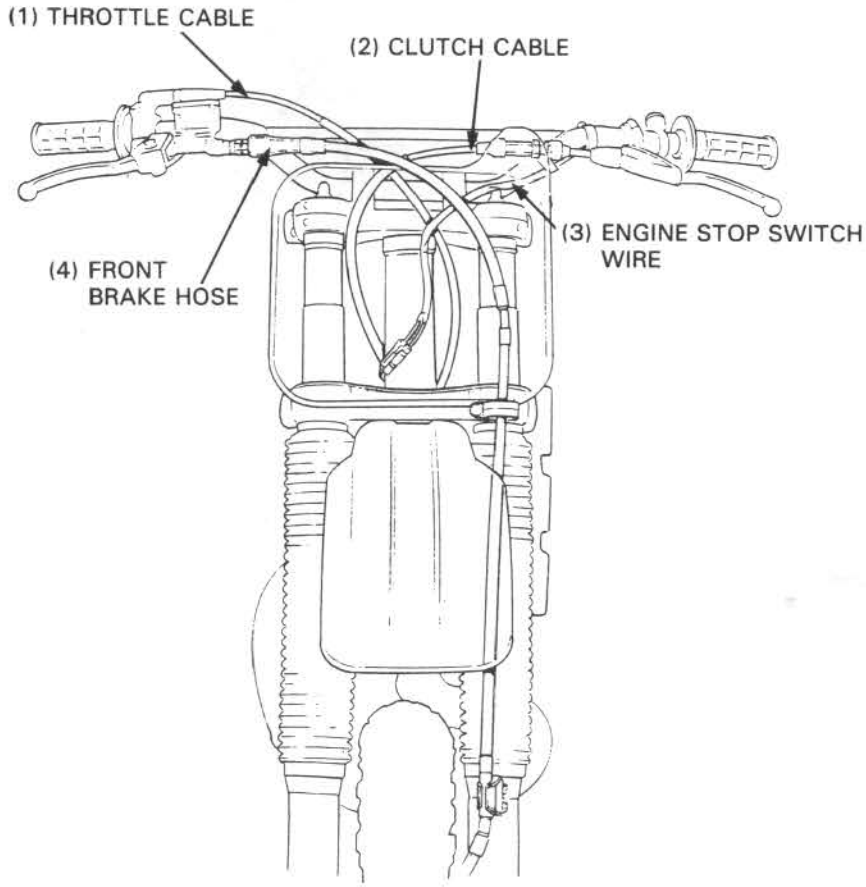
'87:

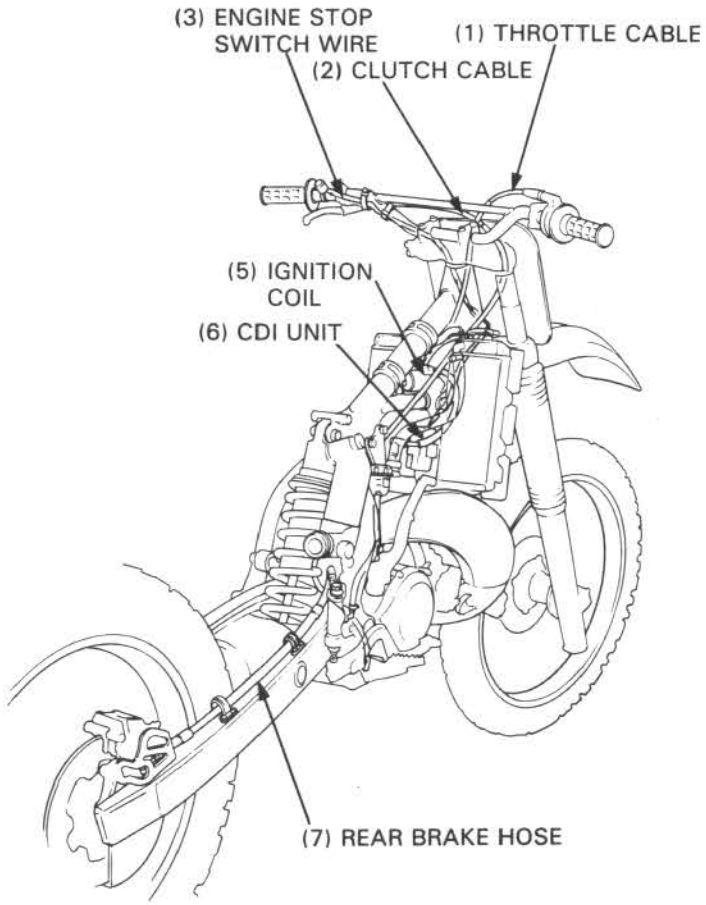

(6) ENGINE STOP SWITCH
(3) CLUTCH CABLE
(1) THROTTLE CABLE
(2) WIRE BANDS
(1) THROTTLE CABLE
(7) CDI UNIT
(8) IGNITION COIL
(3) CLUTCH CABLE
(5) ENGINE STOP SWITCH WIRES
(4) FRONT BRAKE HOSE GUIDE


(14) CRANKCASE BREATHER TUBE
(12) CARBURETOR AIR VENT TUBES
(9) ALTERNATOR/PULSE GENERATOR WIRES
HONDA
(13) CARBURETOR OVERFLOW TUBE
(11) RADIATOR OVERFLOW TUBE
(10) TUBE/WIRE BANDS

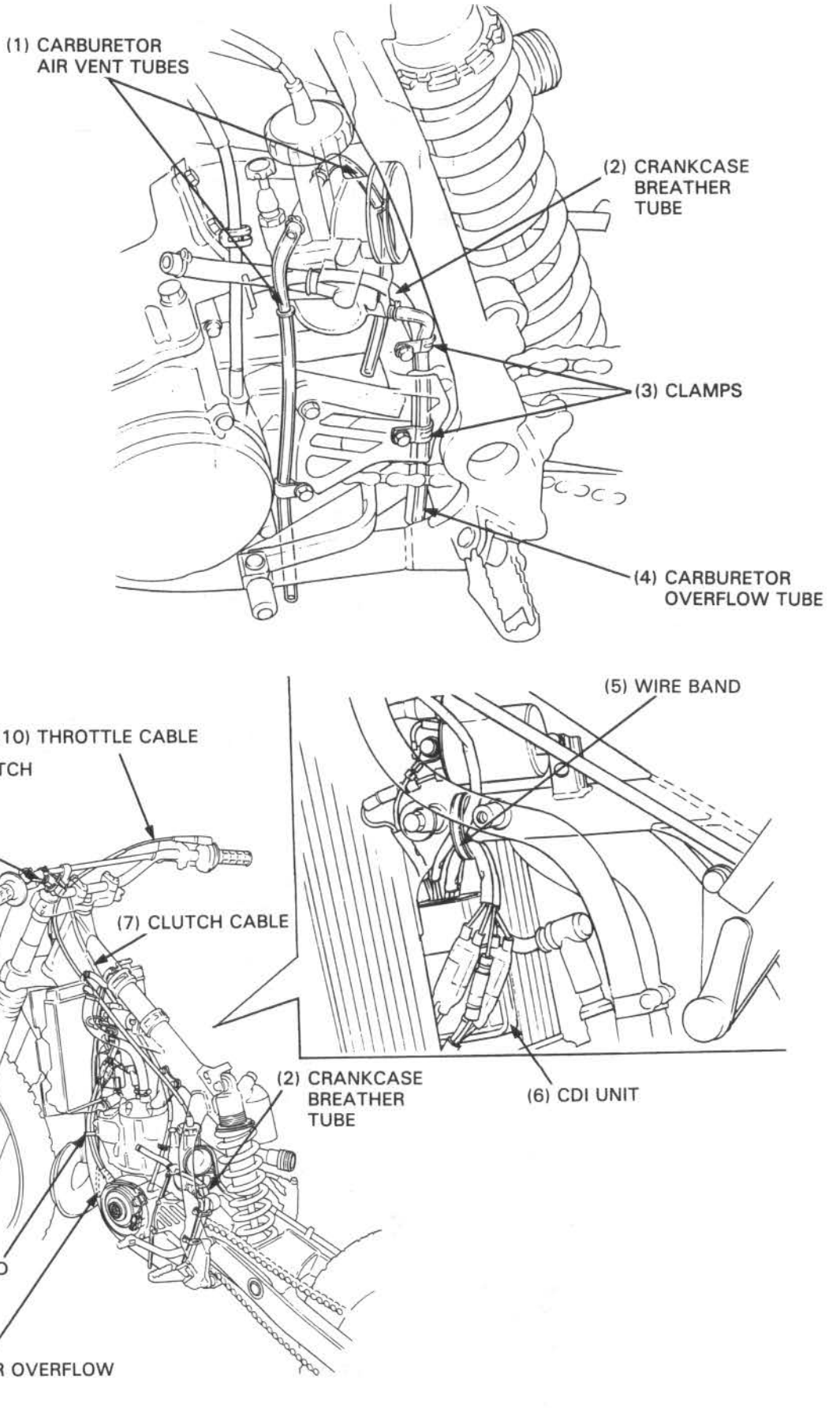
RIDE RED

'88:


(1) THROTTLE CABLE
(2) CLUTCH CABLE
(3) ENGINE STOP SWITCH WIRE
(4) FRONT BRAKE HOSE

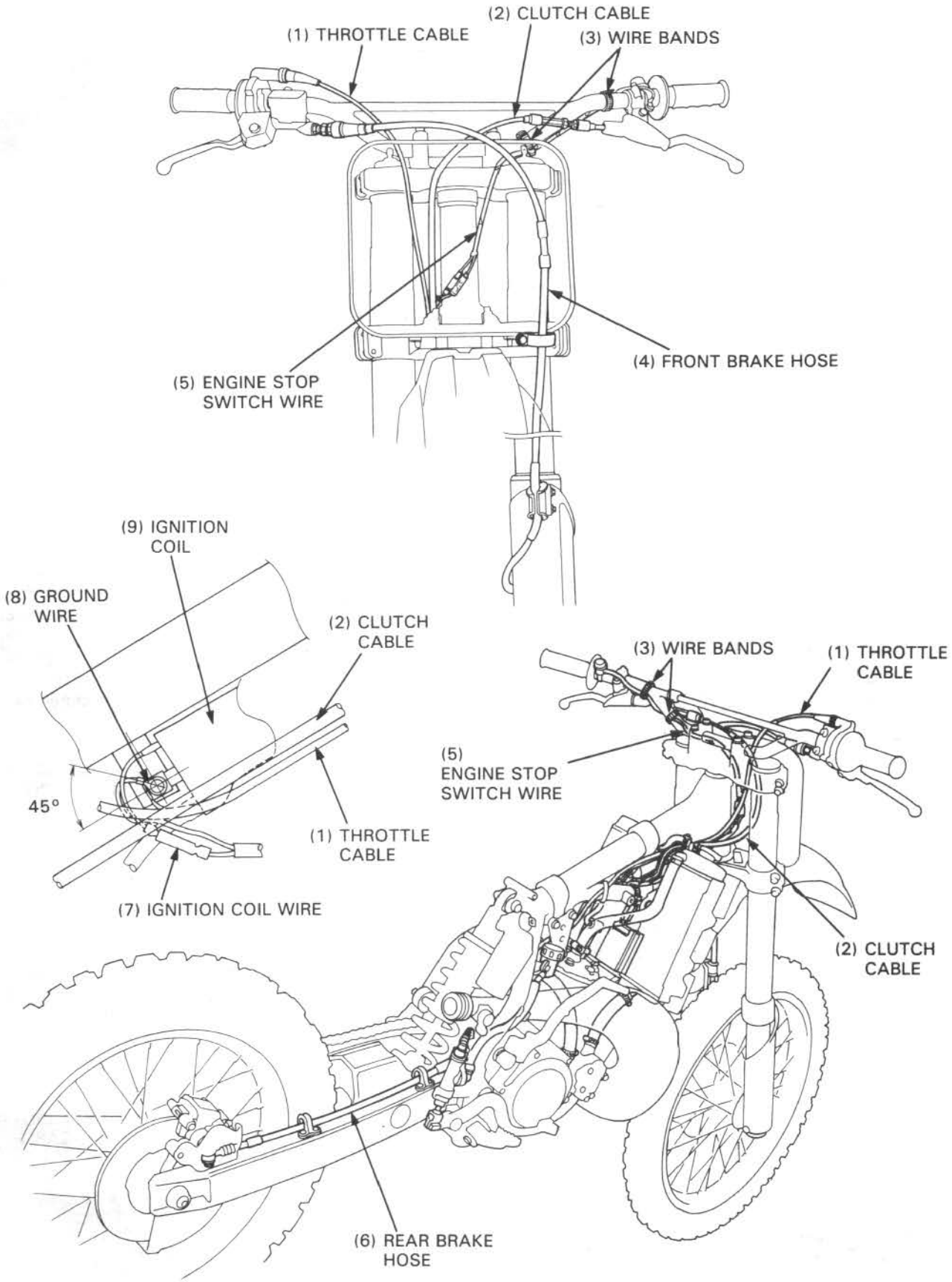

(3) ENGINE STOP SWITCH WIRE
(1) THROTTLE CABLE
(2) CLUTCH CABLE
(5) IGNITION COIL
(6) CDI UNIT
(7) REAR BRAKE HOSE

'88:

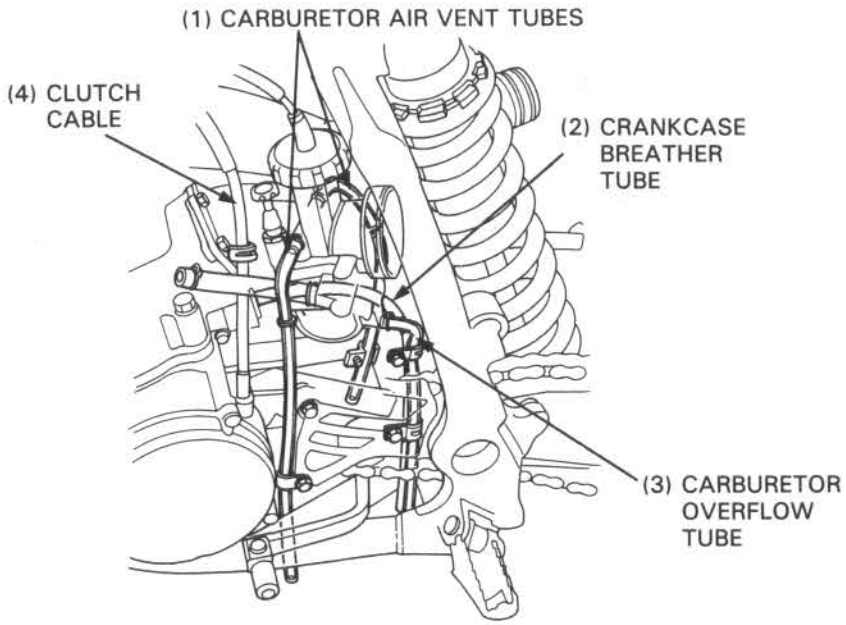

(1) CARBURETOR AIR VENT TUBES
(2) CRANKCASE BREATHER TUBE
(3) CLAMPS
(4) CARBURETOR OVERFLOW TUBE
(5) WIRE BAND
(10) THROTTLE CABLE
(9) ENGINE STOP SWITCH WIRE
(7) CLUTCH CABLE
(2) CRANKCASE BREATHER TUBE
(6) CDI UNIT
(5) WIRE BAND
(8) RADIATOR OVERFLOW TUBE

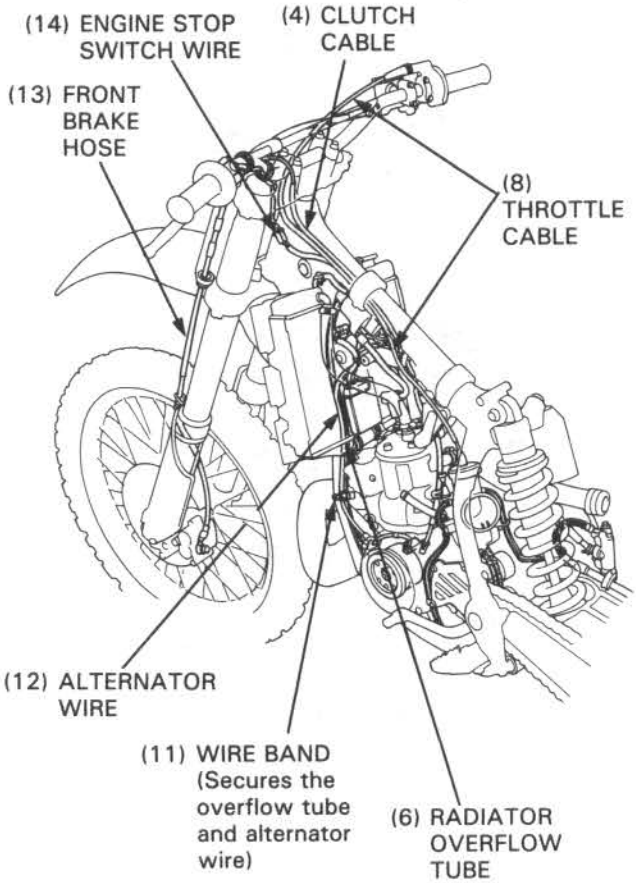
RIDE RED

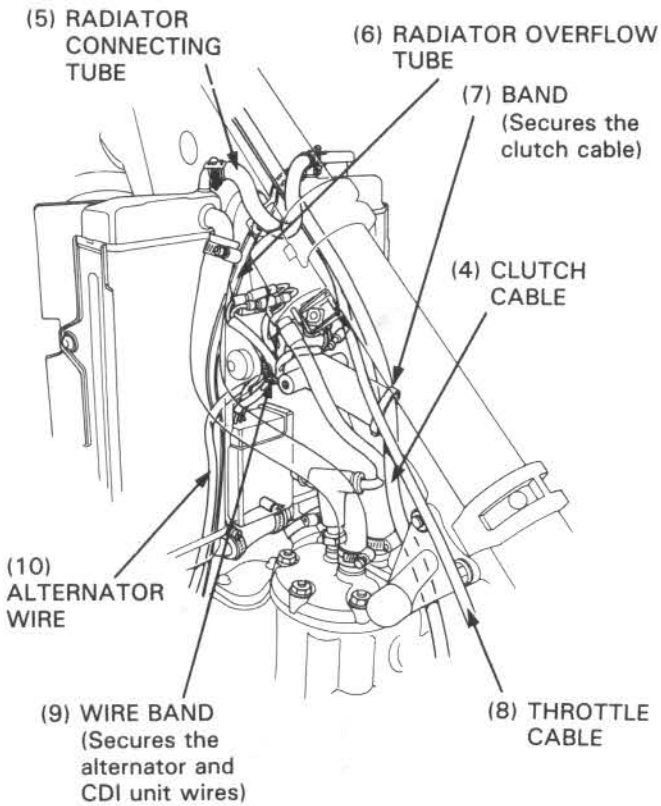
'89:


(1) THROTTLE CABLE
(2) CLUTCH CABLE
(3) WIRE BANDS
(4) FRONT BRAKE HOSE
(5) ENGINE STOP SWITCH WIRE
(9) IGNITION COIL
(8) GROUND WIRE
(2) CLUTCH CABLE
45°
(1) THROTTLE CABLE
(7) IGNITION COIL WIRE
(3) WIRE BANDS
(1) THROTTLE CABLE
(5) ENGINE STOP SWITCH WIRE
(2) CLUTCH CABLE
(6) REAR BRAKE HOSE

'89:

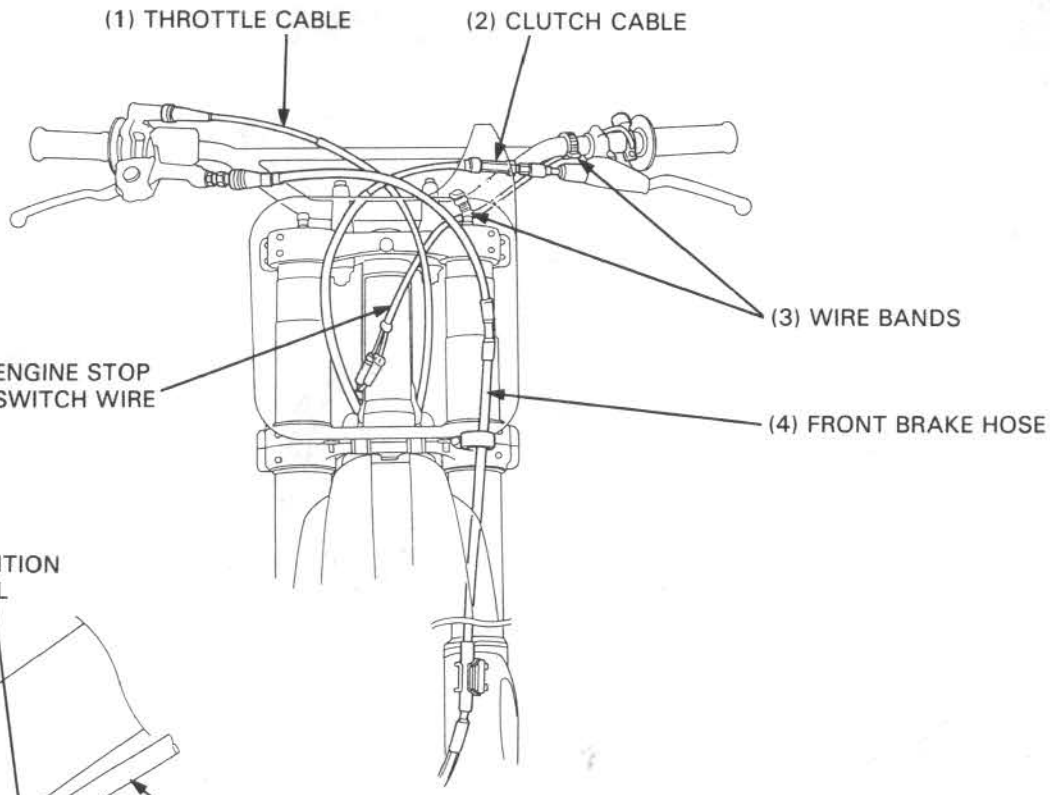

(1) CARBURETOR AIR VENT TUBES
(4) CLUTCH CABLE
(2) CRANKCASE BREATHER TUBE
(3) CARBURETOR OVERFLOW TUBE


(14) ENGINE STOP SWITCH WIRE
(4) CLUTCH CABLE
(13) FRONT BRAKE HOSE
(8) THROTTLE CABLE
(12) ALTERNATOR WIRE
(11) WIRE BAND (Secures the overflow tube and alternator wire)
(6) RADIATOR OVERFLOW TUBE

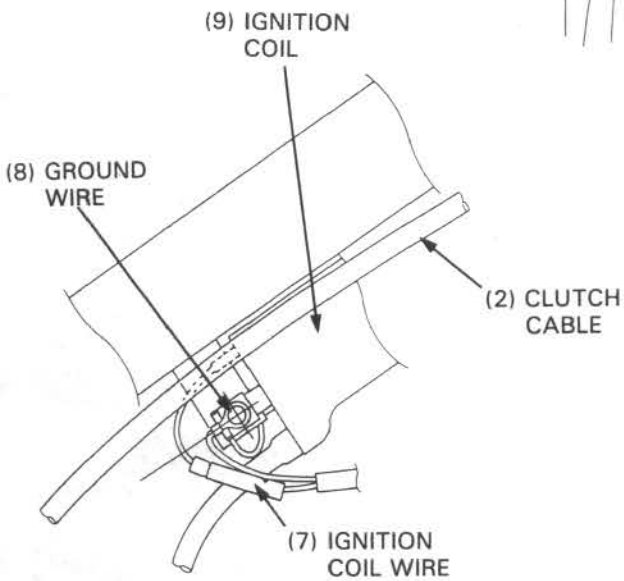

(5) RADIATOR CONNECTING TUBE
(6) RADIATOR OVERFLOW TUBE
(7) BAND (Secures the clutch cable)
(4) CLUTCH CABLE
(10) ALTERNATOR WIRE
(9) WIRE BAND (Secures the alternator and CDI unit wires)
(8) THROTTLE CABLE

RIDE RED

After '89:



'90:



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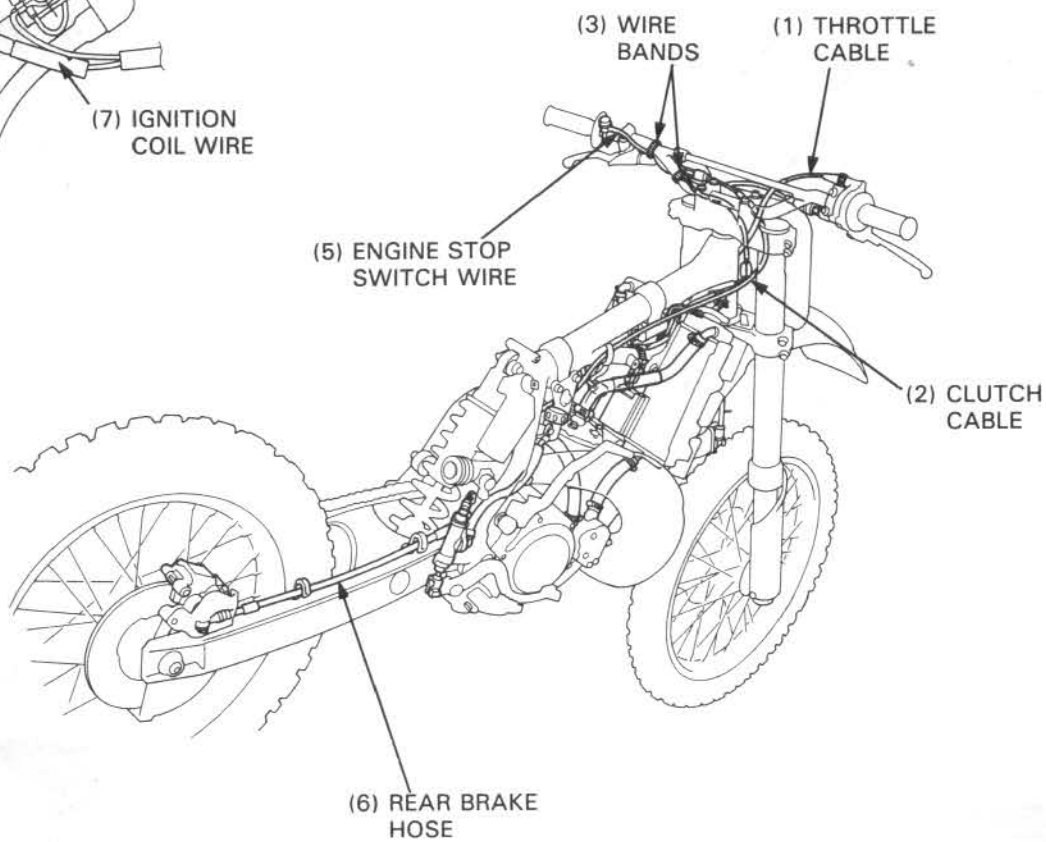

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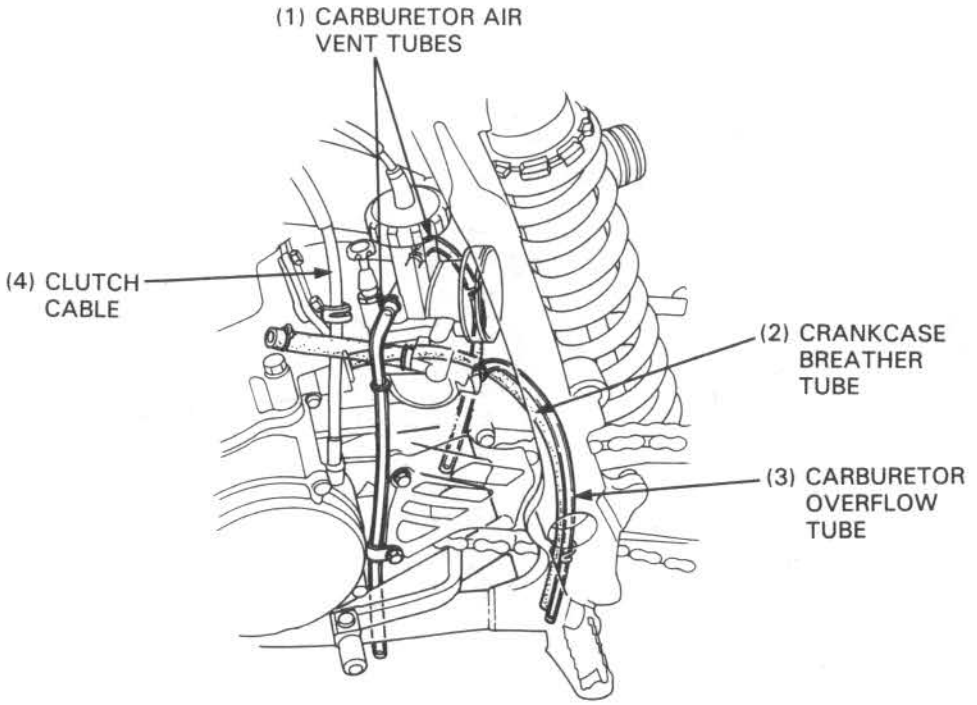

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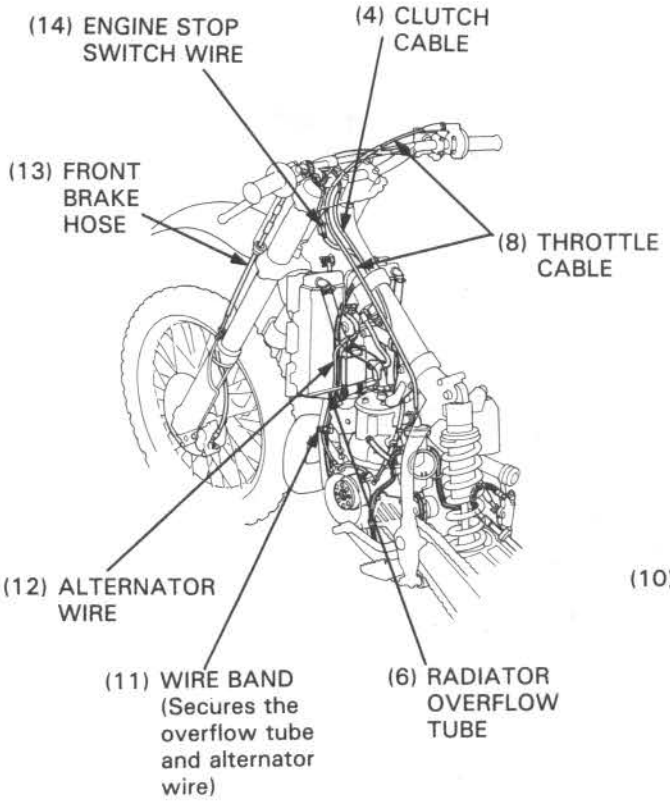

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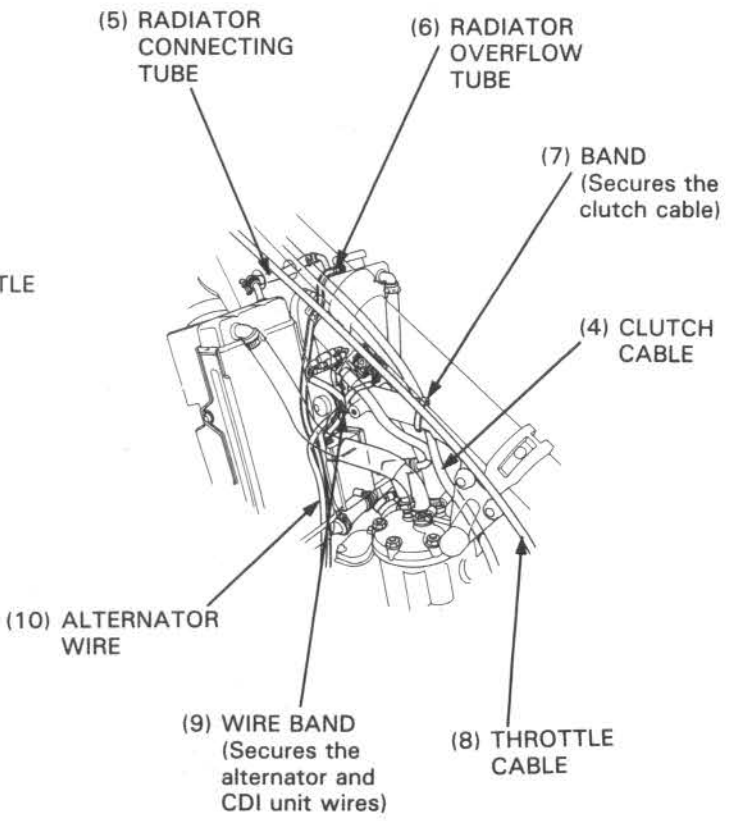
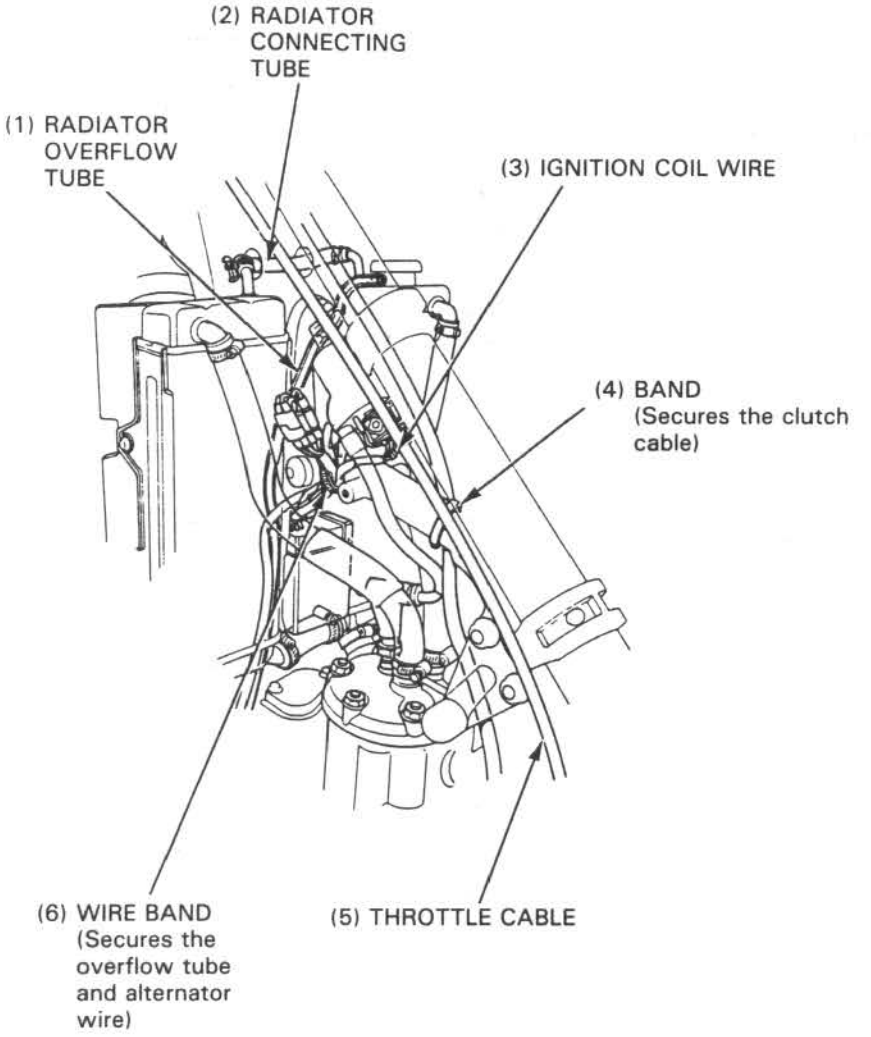
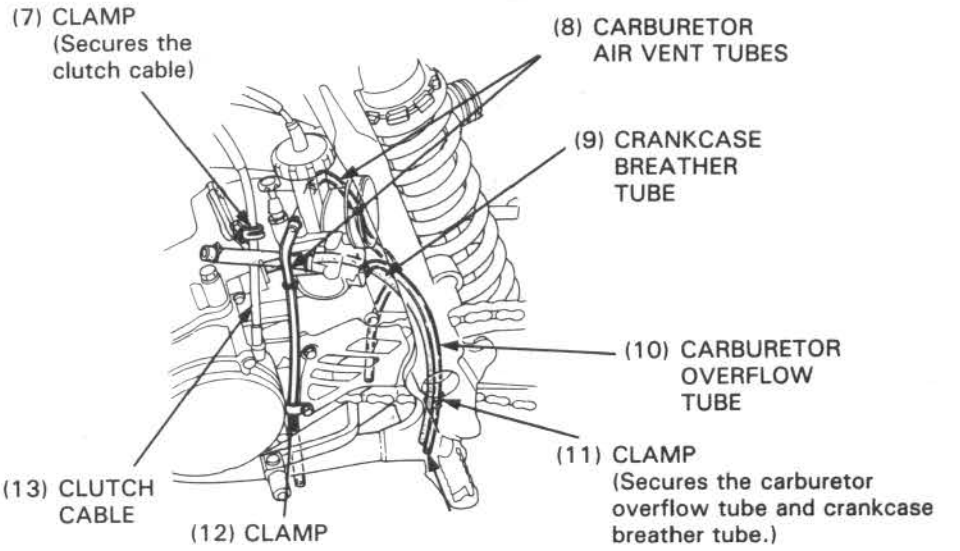


RIDE RED

After '90:





RIDE RED

OPTIONAL PARTS LIST

ITEM	REMARKS
FRAME:	
• Driven sprockets	'86, '87 Aluminum 51T and 55T Steel 53T (mud/sand) (Standard: 53T) After '87 Aluminum 49T and 53T Steel 51T (mud/sand) (Standard: 51T)
• Drive chains	114 links: RK520KZ (After '88: RK520KZ3) 114 links: DID520DS5 (Standard: 116 links: DID520DS5, RK520KZ3)
• Shock spring Identification mark 	**'86:**

Type	Spring rate	Identification mark
Light	4.4 kg/mm (246.4 lb/in)	Brown Mark
Standard	4.8 kg/mm (268.8 lb/in)	Pink Mark
Heavy	5.2 kg/mm (291.2 lb/in)	Black Mark

'87:

Type	Spring rate	Identification mark
Light	4.8 kg/mm (268.8 lb/in)	White Mark
Standard	5.2 kg/mm (291.2 lb/in)	Pink Mark
Heavy	5.6 kg/mm (313.6 lb/in)	Green Mark

'88:

Type	Spring rate	Identification mark
Light	5.2 kg/mm (291.2 lb/in)	Pink Mark
Standard	5.6 kg/mm (313.6 lb/in)	Yellow Mark
Heavy	6.0 kg/mm (336.0 lb/in)	Brown Mark

'89:

Type	Spring rate	Identification mark
Light	4.8 kg/mm (268.8 lb/in)	Pink Mark
Standard	5.2 kg/mm (291.2 lb/in)	Nothing
Heavy	5.6 kg/mm (313.6 lb/in)	Yellow Mark

'90:

Type	Spring rate	Identification mark
Light	4.8 kg/mm (268.8 lb/in)	Pink Mark
Standard	5.2 kg/mm (291.2 lb/in)	Nothing
Heavy	5.6 kg/mm (313.6 lb/in)	Green Mark

After '90:

Type	Spring rate	Identification mark
Light	4.6 kg/mm (257.6 lb/in)	Black Mark
Standard	5.0 kg/mm (280.0 lb/in)	Nothing
Heavy	5.4 kg/mm (302.4 lb/in)	Yellow Mark

RIDE RED

ITEM	REMARKS
• Fork spring Identification	**'86 '87:**

Type	Spring rate	Identification mark
Light	0.335 kg/mm (18.76 lb/in)	3 coils
Standard	0.355 kg/mm (19.88 lb/in)	1 coil
Heavy	0.375 kg/mm (21.00 lb/in)	2 coils

'88:

Type	Spring rate	Identification mark
Light	0.346 kg/mm (19.38 lb/in)	1 coil
Standard	0.370 kg/mm (20.72 lb/in)	2 coils
Heavy	0.390 kg/mm (21.84 lb/in)	3 coils

'90:

Type	Spring rate	Identification mark
Light	0.36 kg/mm (20.16 lb/in)	3 coils
Standard	0.38 kg/mm (21.28 lb/in)	1 coil
Heavy	0.40 kg/mm (22.40 lb/in)	2 coils

After '90:

Type	Spring rate	Identification mark
Light	0.38 kg/mm (21.28 lb/in)	3 coils
Standard	0.40 kg/mm (22.40 lb/in)	1 coil
Heavy	0.42 kg/mm (23.52 lb/in)	2 coils

• Work stand

For maintenance/service

• Air pressure gauge

For fork air pressure adjustment

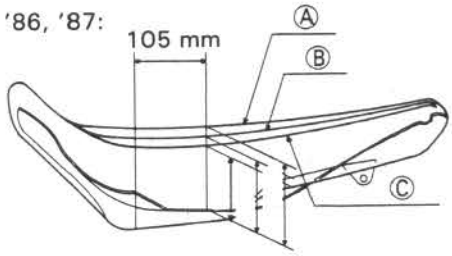
• Pin spanner

For shock absorber spring length (preload) adjustment (two required)
Pin spanner A, B **'86:**
Pin spanner A (two) **After '86:**

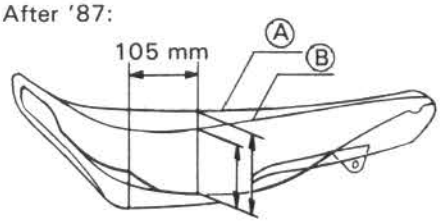
• Seat

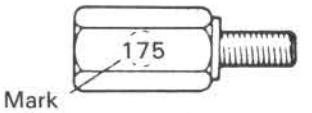
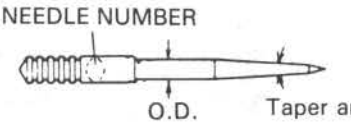
For optional height riding position
'86:
Seat A : Standard: 122 mm (4.8 in)
Seat B : 96 mm (3.9 in)
Seat C : 82 mm (3.2 in)
'87:
Seat A : Standard: 117 mm (4.6 in)
Seat B : 93 mm (3.7 in)
Seat C : 80 mm (3.1 in)
'88:
Seat A : Standard: 117 mm (4.6 in)
Seat B : 85 mm (3.3 in)
'89:
Seat A : Standard: 117 mm (4.6 in)
Seat B : 90 mm (3.5 in)
After '89:
Seat A : Standard: 113 mm (4.4 in)
Seat B : 96 mm (3.8 in)

'86, '87:



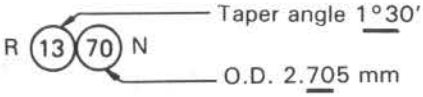
After '87:



ITEM	REMARKS
Carburetor tuning parts Main jets	**'86, '87:** #160—#190 (in increments of 2 or 3) Standard: #175 **'88:** #170—#200 (in increments of 2 or 3) Standard: #185 **'89:** #168—#188 (in increments of 2 or 3) Standard: #178 **After '89:** #165—#185 (in increments of 2 or 3) Standard: #175 
Jet needles	**Standard: '86, '87:** R1368N (ϕ2.685 mm −1°30') **'88:** R1367N (ϕ2.675 mm −1°30') **'89:** R1369PS (ϕ2.695 mm −1°30') **'90:** R1370NS (ϕ2.705 mm −1°30') **After '90:** R1369NS (ϕ2.695 mm −1°30') 

YEAR	GENERAL FLOW CHARACTERISTICS	JET NEEDLE NUMBER	O.D. (mm)	TAPER ANGLE	SPECIFIC FLOW CHARACTERISTICS
'86, '87	Leaner than the stock R1368N needle	R1370N	2.705	1°30'	Leaner only at 1/8 to 1/4 throttle
	Richer than the stock R1368N needle	R1366N	2.665	1°30'	Richer only at 1/8 to 1/4 throttle
'88	Leaner than the stock R1367N needle	R1369N	2.695	1°30'	Leaner only at 1/8 to 1/4 throttle
	Richer than the stock R1367N needle	R1365N	2.655	1°30'	Richer only at 1/8 to 1/4 throttle
'89	Leaner than the stock R1369PS needle	R1370PS R1371PS	2.705 2.715	1°30'	Leaner only at 1/8 to 1/4 throttle
	Richer than the stock R1369PS needle	R1367PS R1368PS	2.675 2.685	1°30'	Richer only at 1/8 to 1/4 throttle
'90	Leaner than the R1371NS needle	R1372NS	2.725	1°30'	Leaner only at 1/8 to 1/4 throttle
	Leaner than the stock R1370NS needle	R1371NS	2.715	1°30'	Leaner only at 1/8 to 1/4 throttle
	Richer than the stock R1370NS needle	R1369NS	2.695	1°30'	Richer only at 1/8 to 1/4 throttle
	Richer than the R1369NS needle	R1368NS	2.685	1°30'	Richer only at 1/8 to 1/4 throttle
After '90	Leaner than the R1370NS needle	R1371NS	2.715	1°30'	Leaner only at 1/8 to 1/4 throttle
	Leaner than the stock R1369NS needle	R1370NS	2.705	1°30'	Leaner only at 1/8 to 1/4 throttle
	Richer than the stock R1369NS needle	R1368NS	2.685	1°30'	Richer only at 1/8 to 1/4 throttle
	Richer than the R1368NS needle	R1367NS	2.675	1°30'	Richer only at 1/8 to 1/4 throttle

Meaning of the jet needle number.
(Example)



RIDE RED

ITEM	REMARKS
Slow jets	**'86:** #55—#65 (in increments of 2 or 3) Standard: #60 **'87, '89:** #52—#62 (in increments of 2 or 3) Standard: #58 **'88:** #58—#68 (in increments of 2 or 3) Standard: #62 **After '89:** #50—#60 (in increments of 2 or 3) Standard: #55

NOTE

- The cylinder cannot be bored or honed and only standard size pistons/rings are available. If the cylinder is damaged it must be replaced.

RIDE RED

MEMO

Product: 1986-1991 Honda CR250R Motocycle Service Repair Workshop Manual
Full Download: https://www.arepairmanual.com/downloads/1986-1991-honda-cr250r-motocycle-service-repair-workshop-manual/

2. LUBRICATION

SERVICE INFORMATION

GENERAL

- This section describes inspection and replacement of transmission oil, and lubrication points.
- The Honda CR250R has a two-stroke engine that requires a pre-mixed gasoline-oil mixture.

SPECIFICATIONS

Recommended engine pre-mix oil	Honda 2-stroke oil or equivalent.
Mixing ratio (Fuel: Oil)	20 : 1
Transmission oil capacity	
'86, '87, '88, '89:	0.6 lit (0.63 US qt, 0.53 Imp qt) at disassembly
	0.55 lit (0.58 US qt, 0.48 Imp qt) at oil change
After '89:	0.63 lit (0.67 US qt, 0.55 Imp qt) at disassembly
	0.7 lit (0.74 US qt, 0.62 Imp qt) at oil change
Recommended transmission oil	Honda 4-stroke Oil SAE 10W-40 or equivalent.
	API Service Classification: SF or SG.

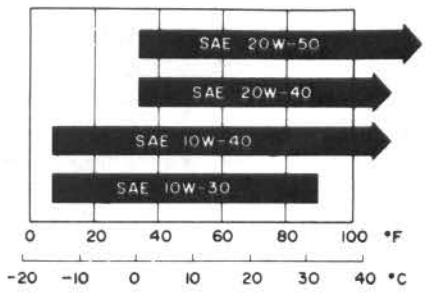
NOTE

- Viscosity selection should be based on the average atmospheric temperature in your riding area. Change to the proper viscosity oil whenever the average atmospheric temperature changes substantially.

TORQUE VALUES

Oil drain bolt	25—35 N·m (2.5—3.5 kg-m, 18—25 ft-lb)
Oil check bolt	8—12 N·m (0.8—1.2 kg-m, 6—9 ft-lb)

Recommended transmission oil viscosity:
SAE 10W-40



TROUBLESHOOTING

Engine does not have sufficient power
- Deteriorated gasoline-oil mixture

Engine stalls frequently
- Deteriorated gasoline-oil mixture

Spark plug fouled
- Incorrect gasoline-oil mixture ratio
- Deteriorated gasoline-oil mixture ratio

Transmission Oil Level Too Low
- Worn right crankshaft seal (transmission oil drawn into crankcase)
- External oil leaks

Sample of manual. Download All 309 pages at:
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