

**OH-539
685/Y685
Gas and Diesel**



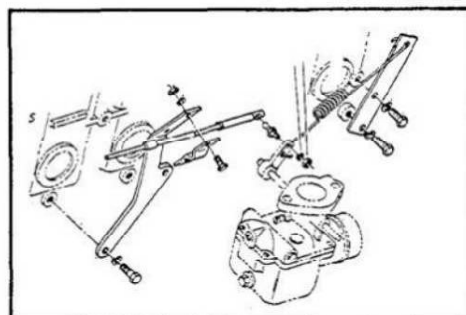
CLARK Technical
Publications
Lexington, KY
40508

Copyrighted Material
Intended for CLARK dealers only
Do not sell or distribute

17. FOR GAS/LPG:

Remove accelerator control at carburetor throttle lever.

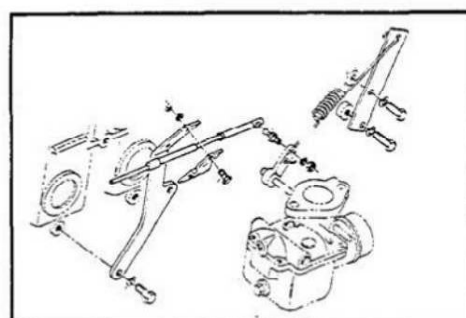
Disconnect choke control cable from choke lever (gas only).



25865

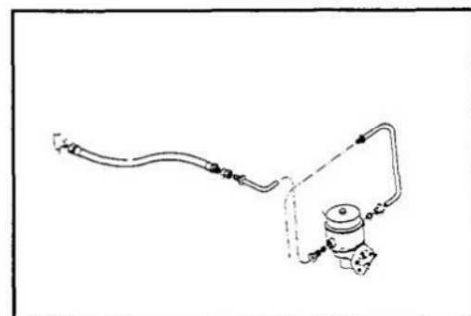
17. DIESEL:

Disconnect accelerator control at fuel injection pump.



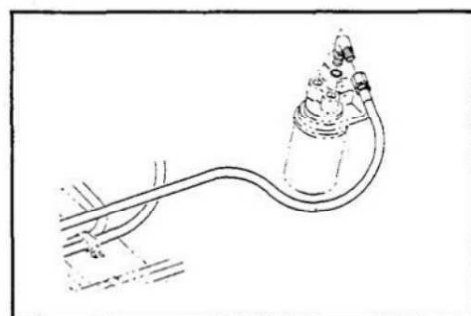
25858

18. Remove the fuel line between fuel pump and fuel tank in frame.



25866

19. Remove the oil line from transmission to filter and cap end of line.



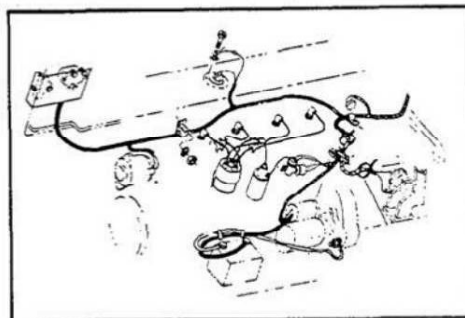
25867

GROUP 00

CLARK

20. Remove and tag all wire harness leads to engine components.

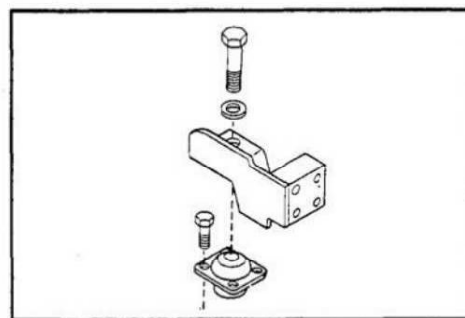
Put wire harness in coil and tie harness to truck to prevent damage to harness as engine is removed.



25872

21. Connect an OSHA approved overhead chain to the engine lifting brackets for lifting engine out of truck.

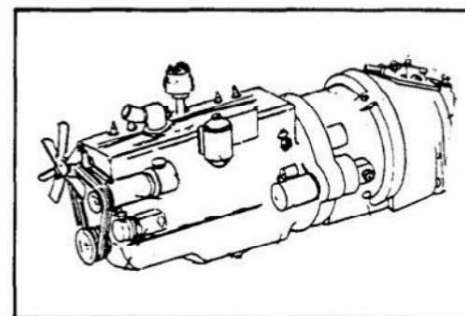
22. Remove engine mount bolts and dampeners.



25862

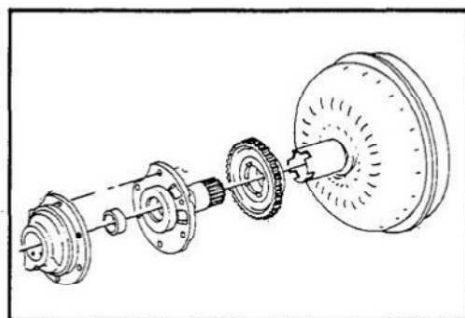
23. Remove engine flywheel housing to transmission fasteners.

24. Carefully separate engine and transmission by moving engine away from transmission. Lift engine out of truck. Use prybars if necessary to assist in separating engine from transmission, but do not use unnecessary force.



25863

NOTE: Converter is attached to engine but converter pump drive gear is loose. Use care when removing engine to prevent gear falling on floor and damaging gear.

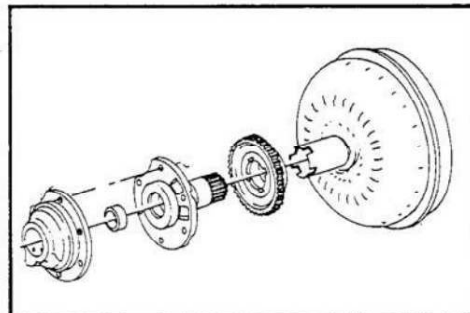


25864

ENGINE ASSEMBLY:

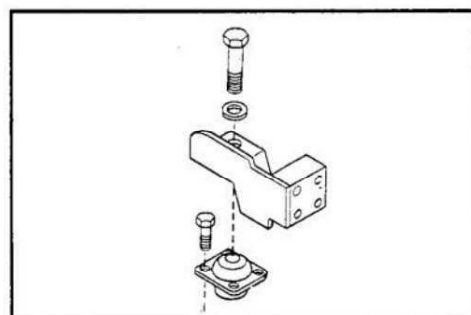
1. Put a light layer of grease on convertor shaft, shaft tangs and seal in stator support assembly of transmission.

2. Make sure convertor pump drive gear is firmly in place on transmission.



25864

3. Carefully lower engine into frame using an adequate hoisting device and an OSHA approved lifting chain hooked into the lift eyes. Slide convertor shaft into transmission making sure seal is not damaged as it slides into place. Remove top access cover on transmission and rotate gearing to permit alignment of tangs on convertor shaft with transmission. Lower engine carefully and put engine mounting dampeners in place on frame mounting surfaces.

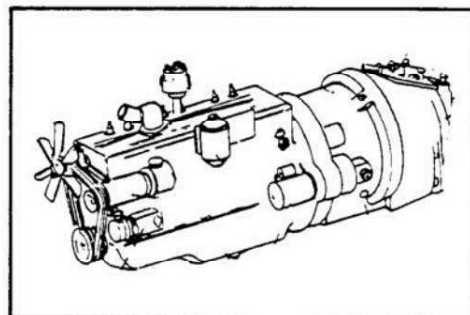


25862

4. Insert engine mounting bolts and tighten to a torque of (34-38 N.m) 25-28 lbf-ft.

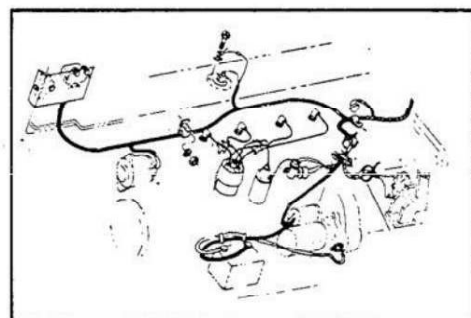
5. Insert transmission case to engine fasteners and tighten to a torque of (33-37 N.m) 24-27 lbf-ft.

6. Replace transmission top cover and tighten fasteners to a torque of (33-37 N.m) 24-27 lbf-ft.



25863

7. Replace all wires on correct components on engine and remove tags.

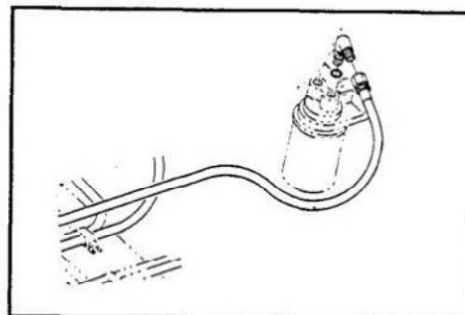


25872

GROUP 00

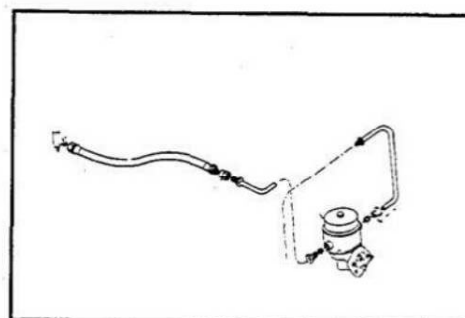
CLARK

8. Replace the oil line on the transmission filter.



25867

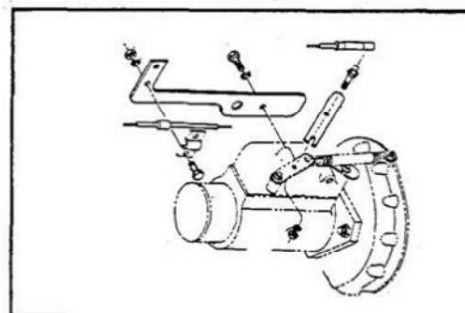
9. Replace the fuel line on the fuel pump.



25866

10. DIESEL:

Connect the accelerator control at the fuel injection pump.

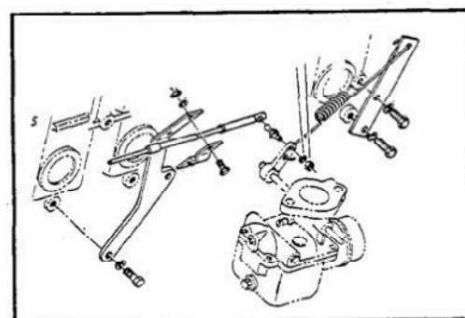


25858

10. GAS/LP:

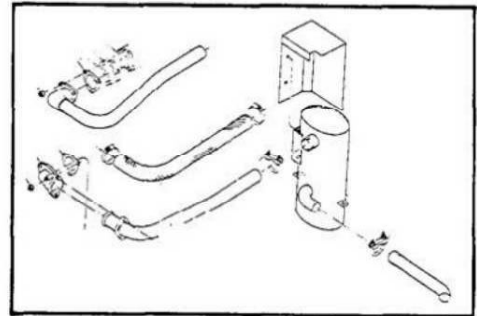
Connect the accelerator control at the carburetor throttle lever.

Connect the choke control cable at the choke lever (gas only).



25865

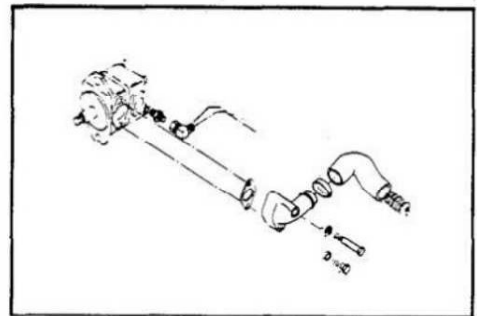
11. Install the exhaust pipe and heat shield wrap.
12. Install the muffler and tail pipe.
13. Install the muffler and manifold heat shields.



25875

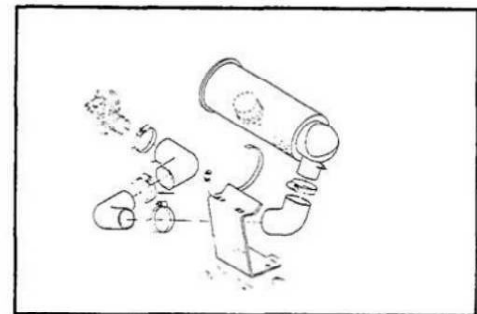
14. Install the main pump inlet fitting assembly and new gasket, inlet hose and stiffener.

Fill the oil sump to proper level.



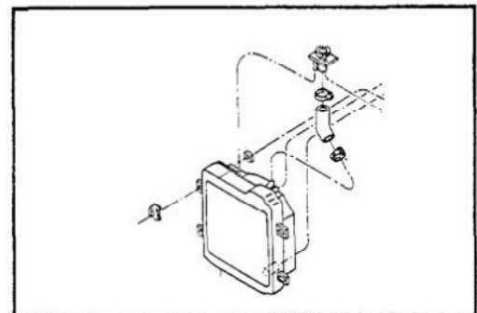
25874

15. Install the air cleaner and air cleaner hoses and clamps.



25873

16. Install the radiator.

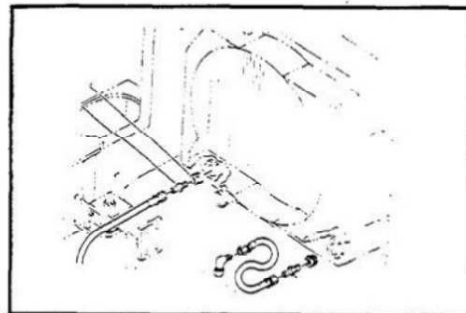


25871

**GROUP
00**

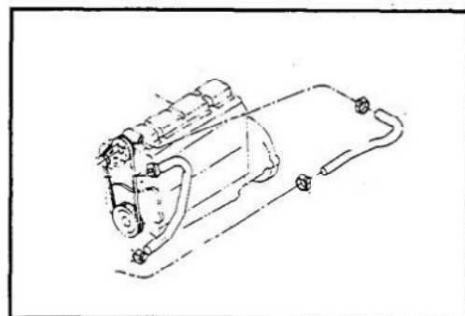
CLARK

17. Connect oil transmission cooling lines at radiator.



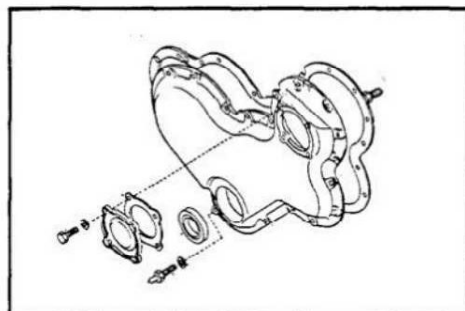
25879

18. Connect engine cooling lines to radiator.
Fill radiator to correct level.



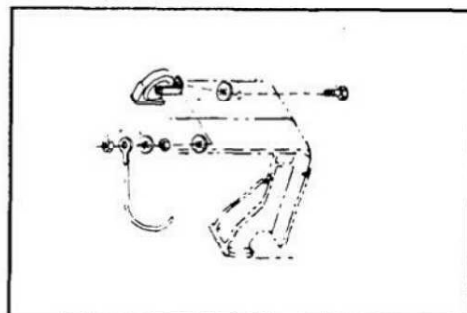
25878

19. Install front and rear floor plates.
20. Install seat support and top hood.



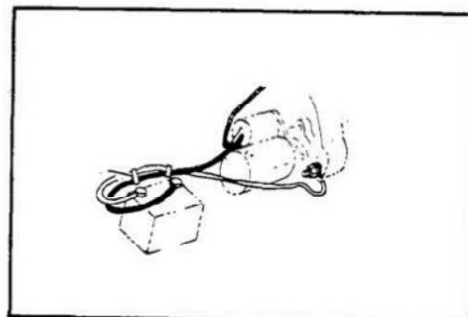
25877

21. Attach electrical leads to horn.



25876

23. Install battery and connect battery leads.

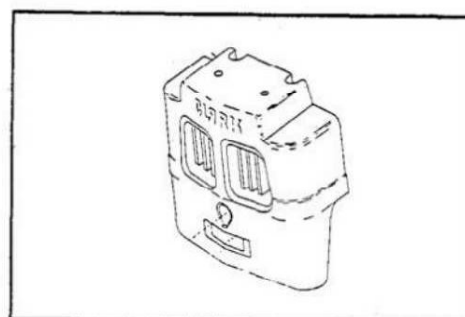


25861

24. Install counterweight and tighten fasteners to a torque of (475-542 N.m) 350-400 lbf-ft.

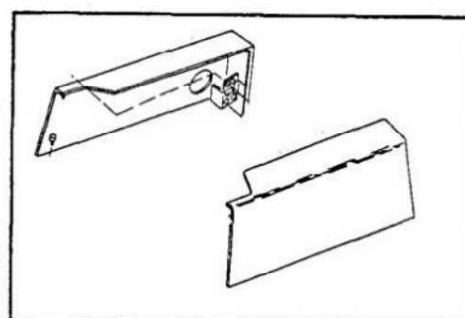
**WARNING**

CRUSHING WEIGHT
HEAVY COMPONENTS CAN FALL AND
CAUSE SEVERE CRUSHING INJURY.
KEEP ALL BODY PARTS AWAY!



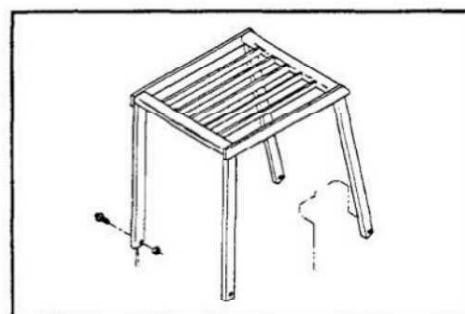
25870

25. Install side doors.

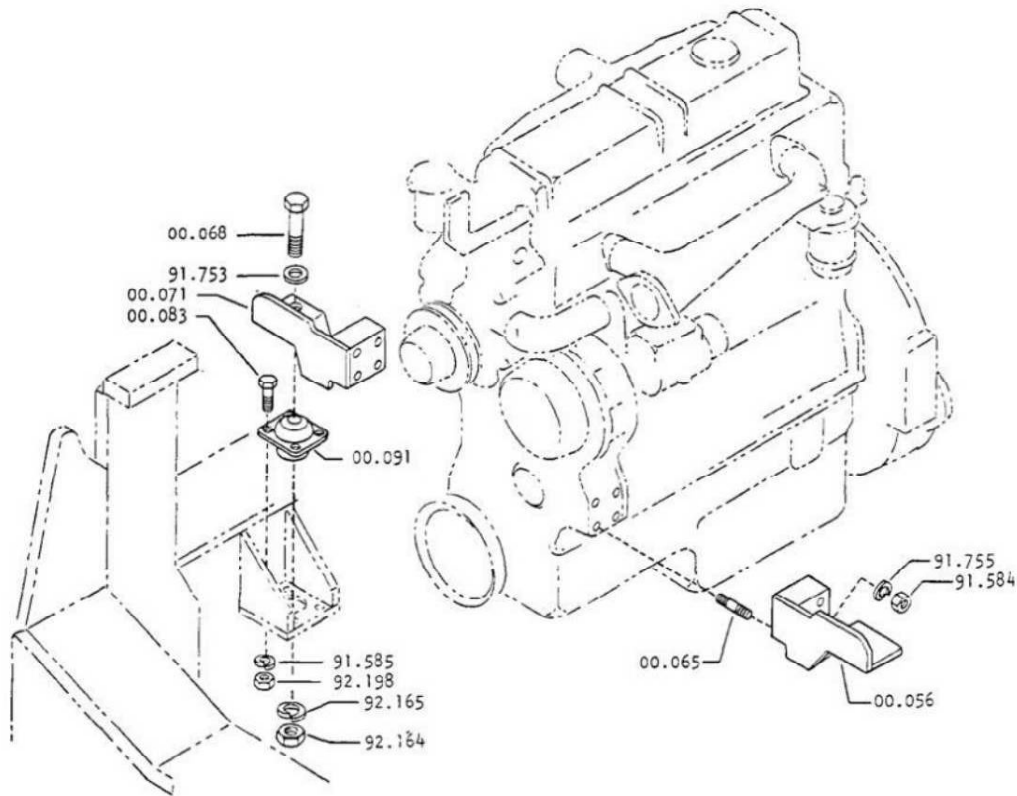


25869

26. Replace overhead guard. Insert and tighten fasteners to a torque of (65-75 N.m) 50-55 lbf-ft.



25868



ENGINE MOUNT

00.056	MOUNT, ENGINE RH
00.065	STUD, ENGINE MOUNT
00.068	BOLT, ENGINE MOUNTING
00.071	MOUNT, ENGINE LH
00.083	BOLT, ENGINE MOUNT VIBRATION DAMPENER
00.091	DAMPENER, ENGINE MOUNT VIBRATION
91.584	NUT, ENGINE MOUNT FASTENER
91.585	LOCKWASHER, ENGINE MOUNT VIBRATION DAMPENER FASTENER
91.753	WASHER, ENGINE MOUNTING FASTENER
91.755	LOCKWASHER, ENGINE MOUNT FASTENER
92.164	NUT, ENGINE MOUNTING FASTENER
92.165	LOCKWASHER, ENGINE MOUNTING FASTENER
92.198	NUT, ENGINE MOUNT VIBRATION DAMPENER FASTENER

CONTENTS

DESCRIPTION	PAGE
Cylinder Head Removal.....	3
Cylinder Head Disassembly.....	3
Cylinder Head Assembly.....	6
Cylinder Head Installation.....	7
Gear Cover And Gear Removal.....	9
Gear Cover Parts Inspection.....	13
Gear Cover Installation.....	14
Water Pump Removal.....	17
Water Pump Installation.....	18
Flywheel Housing Removal.....	19
Flywheel Housing Installation.....	20
Camshaft Removal.....	21
Camshaft Installation.....	22
Oil Pan And Balancer Removal.....	23
Oil Pan And Balancer Installation.....	25
Crankshaft And Piston Removal.....	27
Crankshaft And Piston Installation.....	30
Basic Engine Data	
General.....	33
Valves.....	33
Camshaft.....	34
Connecting Rod.....	34
Crankcase.....	34
Crankshaft.....	34
Piston And Pin.....	35
Camshaft Gear.....	35
Distributor Drive Gear.....	35
Idler Gear.....	35
Crankshaft Gear.....	35
Hydraulic Pump Drive Gear.....	35
Backlash.....	35
Plates	
Engine Gasket Sets.....	36
Engine Subassembly (Cooling).....	37
Crankshaft.....	38
Balancer.....	39
Engine Subassembly (Balancer).....	40
Flywheel Housing.....	41
Front End Cover.....	42
Crankcase Head.....	43
Crankcase.....	44
Camshaft.....	45
Oilpan.....	46
Water Pump Assembly.....	47
Manifolds.....	48
Fuel Pump.....	49