

MAINTENANCE REQUIRED ON VEHICLES

ENGINE

CROMWELL

- Odometer 470 - Coupling between engine and beveled gear box loosened - a modified locking clip sent with the vehicle was installed.
- Odometer 741 - The incline cam drive upper gland housing stripped out of cylinder block on "A" bank - repaired.

One cam and rocker on "A" bank worn through case - new cam shaft and rocker installed.

CENTANE

- Odometer 165 - Engine misfiring - new spark plugs installed.
- Odometer 190 - Starter stuck in engagement - freed by towing vehicle.

Fuel cut off valve inoperative - no action taken.
- Odometer 267 - Leaking gasket on air intake - repaired while installing modified carburetors.
- Odometer 341 - Starter stuck in engagement - modified Bendix engagement dog installed.
- Odometer 385 - Modified starter engagement mechanism stuck out of mesh and would not engage - successive attempts freed starter.
- Odometer 533 - Engine failed, number 4 connecting rod bearing failed on inner and outer lining of split floating shell and number 3 on outer lining only. Also cam shaft oil seal tube was cracked at end flange, baffle pan in oil sump cracked, stainless steel exhaust manifold cracked and excessive cylinder bore wear up to .013 was noted - a new engine is being installed.

8441 - No trouble.

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RESTRICTED

CLUTCH

CROMWELL - No trouble.

CENTAUR

Odometer 341 - Clutch could not be disengaged because it was packed with dust. This condition also caused failure of hydraulic pipe lines - clutch disassembled and cleaned and all openings except the louvered ventilators around periphery of flywheel were sealed to exclude entrance of dust.

M4A3

Odometer 468 - Clutch jammed by dust so that it would not disengage properly - disassembled and cleaned and reinstalled after closing all openings in the housing except the louvered openings around the flywheel.

COOLING SYSTEM

CROMWELL - It has been necessary several times to solder leaks in the radiators.

CENTAUR - No trouble.

M4A3 - No trouble.

FUEL SYSTEM

CROMWELL

Odometer 470 - Valves found to be stuck open so that tanks level out and fuel could not be turned off. This is the poppet valve type of tap - no action taken owing to inaccessibility.

CENTAUR

Odometer 158 - Fuel starvation occurred when running on left hand or both tanks - cracked outlet pipe from left hand tank replaced by new pipe.

M4A3 - No trouble.

TRANSMISSION

CROMWELL

Odometer 420 - Third gear jumped out of mesh descending 20% slope - no action taken.

RESTRICTED

ODOMETER 448 - Sliding piece which engages dogs on 4th and 5th speed gears tightened up on its splines - transmission removed for overhaul and another box installed.

CENTAUR

Odometer 190 - Oil leaks from output shafts - no action taken.

W443

Odometer 336 - Oil cooler developed leak - new unit installed.

FINAL DRIVES

CROWWELL

Odometer 348 - Left hand sprocket retaining cap showing movement - tightened cap 30°. Also tightened right hand cap 15°.

Odometer 415 - Water entered final drive housings during fording trials - drained and refilled with fresh oil.

Odometer 698 - Thread stripped in left hand sprocket retaining cap - new cap installed.

Odometer 733 - Both sprocket retaining caps loose and splines showing excessive wear - caps tightened.

Odometer 741 - Center piece for left hand stopping brake loose on splined shaft, but retaining nut and split pin intact - nut tightened and repinned.

CENTAUR - No trouble.

W443 - No trouble.

STEERING BRAKES

CROWWELL

Odometer 335, 432, 506 - Excessive clearance allowed sticks to come right back - brake shoes adjusted.

Odometer 733 - Steering lost all effect due to oil floated into drums on water shipped into hull - original steering brakes replaced. (Caused by accident).

CENTAUR

Odometer 267 - Brakes required adjustment.

443 - No trouble.

STOPPING BRAKES

CROMWELL

Odometer 432, 506 - Excessive clearance developed - brake shoes adjusted.

Odometer 617 - Right hand carrier plate broken - new brake assembly, complete, fitted.

Odometer 733 - Brakes ineffective due to oil floated into drums by water in hull. Left hand drum patched by overheating and deep surface cracks in evidence - new brake units installed together with fabricated carrier plates, also new left hand drum.

CENTAUR

Odometer 245 - Left hand carrier plate broken - new brake assembly, complete, installed.

Odometer 267 - Brakes required adjustment.

Odometer 528 - Foot brake would not hold tank on 30% slope - spring loaded link between pedal and master cylinder locked solid.

443 - Not applicable.

LOCKHEED SYSTEM

CROMWELL

Odometer 370 - Loss of oil from reservoir due to leak from cracked rubber bellows on left hand steering master cylinder - a new bellows installed.

Odometer 617 - Steering control levers coming right back and requiring several pumps to obtain effect - hydraulic lines bled, but trouble recurred.

Odometer 731 - Clutch pedal would not withdraw clutch - bled hydraulic line.

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CENTAUR

Odometer 158 - Left hand interlock not working owing to the safety valve having been assembled with the ball the wrong end of the spring - connected.

Odometer 228 - Hydraulic oil leak in right hand stopping brake causing rapid emptying of reservoir - no action taken.

Odometer 267, 426, 523 - Steering sticks coming right back and requiring several pumps to obtain effect - bled hydraulic lines.

Odometer 341 - Flexible pipe connection to clutch withdrawal cylinder burst - a stronger pipe connection was fitted.

M4A3 - Not applicable.

DRIVER'S CONTROLS

CROMWELL

Odometer 370 - Position of gear lever in 5th speed caused driver's knee to foul left hand steering lever - gear lever set over to right.

CENTAUR - No trouble.

M4A3 - No trouble.

SUSPENSION

CROMWELL

Odometer 370 - Oil leaks from filter union in base of reservoir - rough surface of adapter welded into tank was faced up, and an aluminum washer fitted in place of fiber.

Odometer 698 - Left hand front axle arm slightly bent by running over tree stump - no action.

Odometer 733 - Right hand rear axle arm badly bent during accidental descent into river bed - new axle arm fitted.

CENTAUR

Odometer 190 - Left front axle arm fractured at boss carrying wheel axle. Progressive buffer and housing broken - replaced.

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W443

Odometer 508 - Bearings failed in right center track support roller - new roller and bracket fitted.

HULL AND ARMOR

CROWWELL

Odometer 345 - Doors of driver's hatch jammed shut - high spots were ground away until doors worked freely.

Odometer 370 - Hinge of driver's access door broken - rewelded.
Front hull drain leaking badly.

Odometer 373 - Cable for operating latches of driver's access door frequently trapped when closing door - guide plates were welded on to keep cable clear.

Odometer 698 - Clip failed which secures vision slit cover to main driver's visor, allowing the latter to swing shut - visor tied open with wire.

Odometer 735 - Front hull drain knocked off by contact with terrain - a detachable blanking plate was fitted.

CENTAUR - No trouble.

W443 - No trouble.

POWER TRAVERSE

CROWWELL

Odometer 343 - Hand traverse worked loose at vertical flange securing it to power traverse - screws were replaced by studs using plain and grover washers under the nuts.

CENTAUR - No trouble.

W443 - No trouble.

DRIVER'S SLIDING SEAT

CROWWELL

Odometer 336 - Tall drivers unable to lock the seat far enough back - three extra locking holes were cut in the slide support.

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CENTAUR - No trouble.

M443 - No trouble.

TRAVERSE & ELEVATION GEAR

CROMWELL

Odometer 528 - Bowden cable for elevation lock broke away at end - new cable fitted.

Odometer 731 - Traveling lock for turret traverse worked loose on turret ring - bolts tightened.

CENTAUR - No trouble.

M443 - No trouble.

TRACK TENSIONERS

CROMWELL

Odometer 733 - Left hand eccentric axle bent during accidental descent into river bed - axle trued up by machining and sleeving.

CENTAUR

Odometer 228 - Right hand tensioning worm thrust flange sheared off worm shaft - modified to take the thrust through a 3/4" diameter steel ball.

M443 - No trouble.

TRACKS

CROMWELL

Odometer 527 - Full adjustment range of tensioners used up - two links removed from each track.

Odometer 698 - Tracks jumping inner sprockets when turning - tracks adjusted three notches each side. Further adjustment at odometer 731.

Odometer 733 - Left hand track distorted and pins cracked when track rode inward over idler wheel during accidental descent on to river bed - new links and pins fitted as required.

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CENTAUR

Odometer 267 - Inner track jumping sprocket on corners and tensioners at limit of adjustment - two links removed from each track.

Odometer 165, 179, 225, 341, 523 - Inner track jumping sprocket on corners - tracks tensioned both sides.

Odometer 385 - Right hand track broken - two links fitted to replace one broken and one cracked link and track refitted.

M4A3 - No trouble.

OIL SYSTEM

CROMWELL

Odometer 741 - The rubber hose connection in the scavenge oil return pipe was on the point of failure and had to be renewed.

CENTAUR - No trouble.

M4A3 - No trouble.

WHEELS & HUBS

CROMWELL

Odometer 579 - Left hand idler and bogie wheel tires perforated by guide lugs when track came off - bogie wheel tires #1, 2, 5 were replaced.

Odometer 733 - Left hand idler wheel ball bearing failed during accidental descent on to river bed - new idler wheel and bearings fitted.

CENTAUR

Odometer 174 - Wheel retaining nuts required tightening all around.

M4A3 - Replaced three bogie tires because of failures.

STOWAGE & EQUIPMENT

CROMWELL

Odometer 506 - Stowage bins for triplex block and for spare bulbs damaged driver's elbows over rough terrain - both bins removed.

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RESTRICTED

CENTAUR

Odometer 245 - Stowage bins for triplex block and for spare bulbs damaged driver's elbows over rough terrain - both bins removed.

M4A3 - No trouble.

TOWING HOOK

CROMWELL - No trouble.

CENTAUR - No trouble.

M4A3

Odometer 150 - Pintle bent up about 10° in the standard shell hole - straightened by jacking down.

TURRET

CROMWELL - No trouble.

CENTAUR -

Odometer 158 - The leaf springs in the catches for holding open the loader's doors are quite ineffective.

M4A3 - No trouble.

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