BETRIFFT: Working time of Haflinger transmission repair

To save time and labour costs of a transmission repair substantially we worked out a method which makes it possible to speed up removing an engine unit without lifting off the platform as is has been required befor.

Comparison of working time

Old method:		New method:
Removing complete engine	2. lo hours	not required
disconnect and connect engine-platform joints	included above	1.00 hour
complete platform dis-assembly and reassembly	4.00 hours	not required
Lift off platform partly only	---------	2.50 hours
Summit:	6.10 hours	3.50 hours

Disassembly of gearbox without removing the platform

The additional with "a" shown points of this instructions concern vehicles with exhaust theating system.

Top of platform:

1. Remove both frontseats.
2. Engage four wheel drive.
3. Platform fastening: Remove all four bolts and put two 8 mm or 5/16" diameter bolts into both front holes to prevent platform from sliding off.
4. Loosen clutchcable at the steering box assy, pull off folding rubber hose. Push clutchcable back into conduite.

Engine:

1. Disconnect battery.
2. Take off upper part of blowercover.
3. Oilbath air filter: Remove two cylinder crews from carburettor, as well as screw at the preheating tube, open holding straps, take off snorkel and lift out filter.
4. Disconnect ignition cable and contact breaker wire.
5. Dynamo: Disconnect earth- plus- field wires, as well as starter wire and pull them out from tunnel of the air deflector plate.
6. Separate oil pressure switch wire at the connection terminal and pull out of cable-clip, the cable is to be left with the engine.
7. Disconnect fuel lineof fuel pump at the filter, at vehicles equipped with standard carburettor at the carburettor too.

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8. Disconnect carburettor linkage and chok cable .
9. Take off engine mounts leave rear cover at the crossmember.
10. Take rubber plug out at the front side of the engine compartment, bend shee metal underneath of the holes approximately 3 mm (1/8 of an inch) away to avoid platform to hooked up on the threaded bolt of shockabsorber mounts, while lifting it up.
11. Put disconnected wire ends out of the engine compartment on the platform.

Underside

1. Remove sparewheel.
2. Front underguard: Remove four bolts from the rubber suspension.
3. Unhook hand brake linkage at the adjusting screw. After locknut is taken off, one person pulls hand brake lever fully, as a second man keeps holding the hand brake linkage in this position, whereupon the other person releases the hand brake lever again. By this means, removal of the adjusting nut is made easier . Loosen brake cable braket from chassis. Unhook brake cable at the rear wheels pull it out of the mounts, leave it at the platform.
4. Rear underguard: Remove the two nuts from the flange of central and both rear securing bolts, take off underguard.
5. Rear thrust brace: pull out split pin, remove (crown) nut and cone.
6. Unhook linkage leading to the differential lock at the gearchange housing (pull out safety pin).

6a. Undo heater tube from the platform, pull both heater hoses from the muffler box. Disconnect mufflerbox on the rear attached to the lateral engine cover plate muffler stays with the engine. Lift platform up and secure it by placing a supporting base, approxomately 150 mm (6 inches) high. (a piece of hardwood etc), between platform and cross member (see fig. 1).

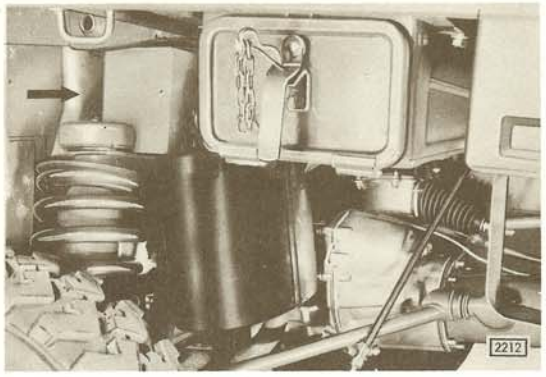

fig. 1

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7. Disconnect gear selector rod, by pushing back the rubber hose and removal of the three bolts at the flange.
8. Clutch cable: Push back connection sleeve of the conduite, which will be found under the front seat pan, pull out clutch cable to the rear.
9. Brake line (connection front - to rear) ist to disconnect at the distributor, above the transmission (see fig. 3 arrow).

fig. 2

10. Flange of central tube: take off the five bolts left there.

Removal of engine transmission unit

Three persons are required for this job.

1. Lift up platform high enough to clear sideparts of engine compartment from platform mounts at the vrossmember (see fig.2) and keep it in this position by placing something underneath it.

fig. 3

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2. The crank handle or similar instrument can be used to hold the whole unit in horizontal position by one person, after sticking it into claws of the governer drive pully (see fig. 4).
3. Two men should now the move rear wheels back and forward until transmission gets loose from flange of central tube and can be taken out. It is not necessary to brace the central tube.

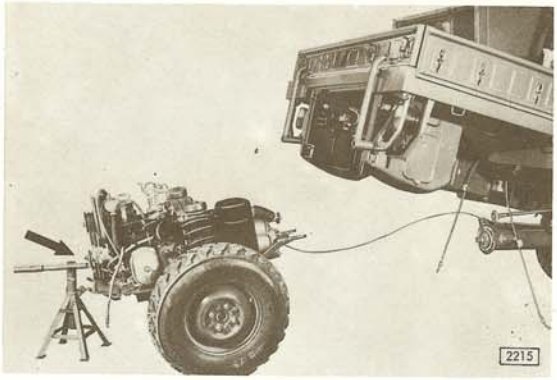

fig. 4

4. Connection sleeve to drive shaft should be marked, that side facing the transmission) by this means is a new alignment not necessary, when reassembling.
5. Take off lockring.

Refitting the engine transmission

1. Spread gasket glue onto the surfaces, put gasked on.
2. Thrust braces must be set the same height of the recess of crowler gear housing.
3. Shove complete unit back in again (beforethat engage fourth or fifth gear). Lead clutchcable in, put thrust braces into the bracket. Bring clutch conduite into right position at the gear selector housing, while moving unit and frame together.

3a. At Haflingers with exhaust theating the cable conduit as well as the brake lines must be lead underneath the connection of the heaterboxes.

4. Tie up five nuts at the flange of central tube. Shove underguard over the lower two studs, put in bolts at the rear end of the shield and tie them up, first at the flange then at rear.
5. Put cones onto thrust braces, tie up crown nuts and lock with split pins.

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6. Connect brake lines at their junctions.
7. Fit differential lock linkage at the gear selector housing.
7a. Put a block, 150 mm (aprox. 6 inches) high on the cross member, lower platform.
8. Adjust gear selecting system: turn three bolts into connection flange. One man keeps gear shift lever in right position (level 3 rd and 4th resp. 4 th and 5th gear), second person ties up the three bolts. Before that check if the selector shaft sits on lower stop (by turning the flange on transmission anticlockwise "seen from front". After bolts are tight check for correct working order of gear shifting system.
8a. Remove block from cross member.
9. Lower platform fully. Watch accelerator linkage and cables.
10. Tie up platform (Four bolts), mount seats.
11. Hook in hand brake cables at the rear wheels, tie bowden fastenings to the frame.
12. Connect hand brake linkage, to do so, one man pushes the brake shoes of the rear wheels forward, while the second man puts the adjusting nut onto linkage and sets hand brake Prakes are working when hand brake lever is pulled back until it rests into fifth catch of rail. Tie up locknut next.
13. Push clutch cable forward and hook it in. Adjust clutch (dead travel at clutchpedal 20 mm, approx. 3/4 to 7/8 of an inch), slide connection sleeve over the both ends of cable conduit. Mount left side cover at the steering box mounting.
14. Bleed hydraulic brakes
14a. Mount heater tube.
15. Fit the lower four bolts into the front underguard.
16. Fill up transmission oil.
17. Fit spare wheel.

Engine compartment

1. Fit engine mounts and set sealing rubber.
2. Put in rubber plugs at the frontside of engine compartment.
3. Generator : Push starter - earth - plus and field wires through tunnel of air defleator plate.
4. Connect oil pressure switch wire.
5. Mount fuel line at the filter and carburettor.
6. Hook in accelerator linkage and choke cable and adjust it. The choke knob should move back 2 mm (approx. 3/32") when shoved back fully.
7. Connect ignition and contact breaker wire.

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8. Assembly of airfilter and manifold: Put manifold onto carburettor, turn bolts 8 mm into tongue of preheattube, tie manifold first at carburetter then at heatertube. Turn lockingclips of oilbathairfilter tight and put on snorkel.

8a. Mount mufflerbox to sidepanel of engineroom.

9. Connect battery.

Following checkup and testdrive.

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