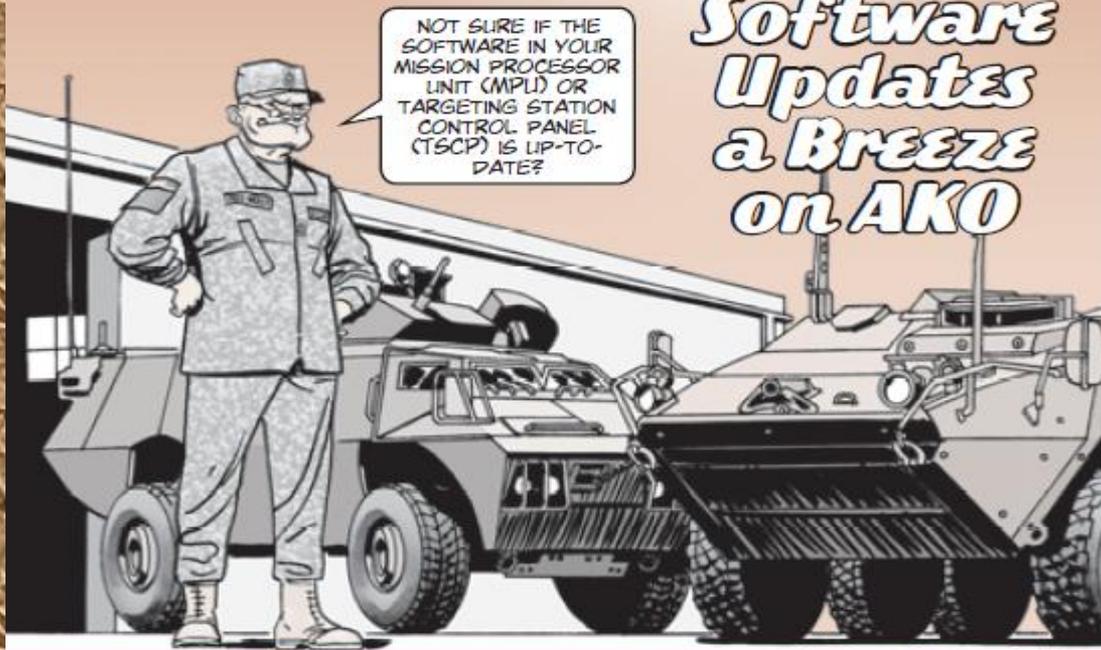


# Software Updates a Breeze on AKO



NOT SURE IF THE SOFTWARE IN YOUR MISSION PROCESSOR UNIT (MPU) OR TARGETING STATION CONTROL PANEL (TSCP) IS UP-TO-DATE?

NO WORRIES, THERE'S NOW A ONE-STOP AKO WEBSITE THAT LISTS THE MOST CURRENT SOFTWARE VERSIONS,

AND, IF YOUR SOFTWARE HAPPENS TO BE OUT-OF-DATE, YOU CAN DOWNLOAD AND BURN THE NEW MISSION LOADER/VERIFIER (MLV) SOFTWARE FILES TO A CD FOR INSTALLATION ON YOUR MPU AND TSCP.

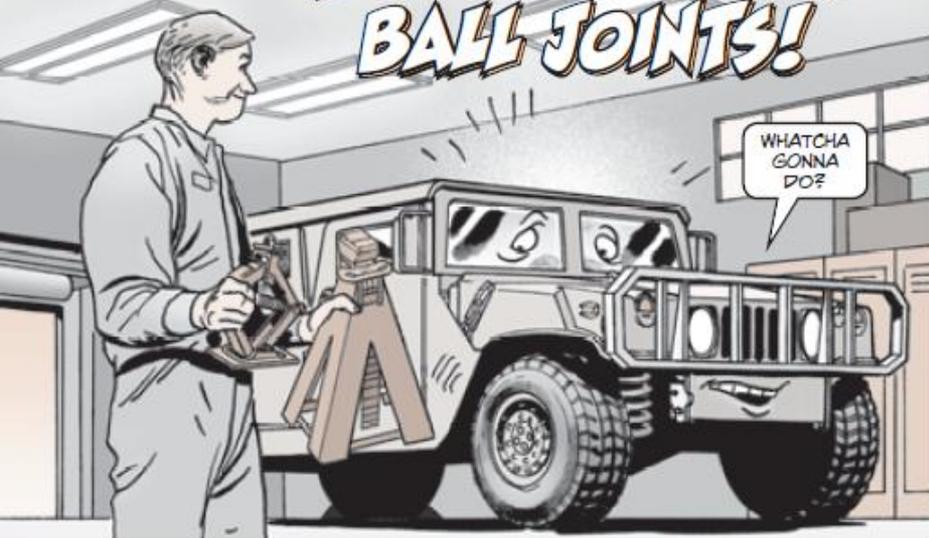


JUST GO TO:  
<https://www.us.army.mil/suite/page/453627>

IF YOU CAN'T BURN CDS, YOU CAN GET THE SOFTWARE UPDATES BY CALLING DRS SUSTAINMENT SYSTEMS, INC.'S (DRS-66I) BRAD NAUMER AT (314) 553-4082, OR BY EMAIL: [bnaumer@drs-ssl.com](mailto:bnaumer@drs-ssl.com)

QUESTIONS? CONTACT TACOM-ROCK ISLAND'S ANDREW MCCALLEY, DSN 793-3976, (309)-782-3976, OR BY EMAIL: [andrew.mccalley@us.army.mil](mailto:andrew.mccalley@us.army.mil)

# HOW TO INSPECT BALL JOINTS!



Dear Half-Mast,

A mechanic recently came to me and said he needed to replace his HMMWV's ball joints. I asked him, "Why are you replacing them? What makes you think they are bad?" To my surprise, he answered, "Someone told me if I could move the halfshaft with my hand it was no good."

Now, you and I both know that's not the right answer! Can PS please clarify the correct way to inspect HMMWV upper and lower ball joints? I'm concerned that money is wasted when good parts are mistakenly replaced.

Mr. J.H.

Dear Mr. J.H.,

Glad to help you with that.

To get the guidance you need for maintaining your HMMWV's ball joints correctly, take a look at your HMMWV's operator and maintenance manuals.

The -10 tells you to visually check halfshaft CV boots and ball joint boots for presence, rips, tears or cuts.

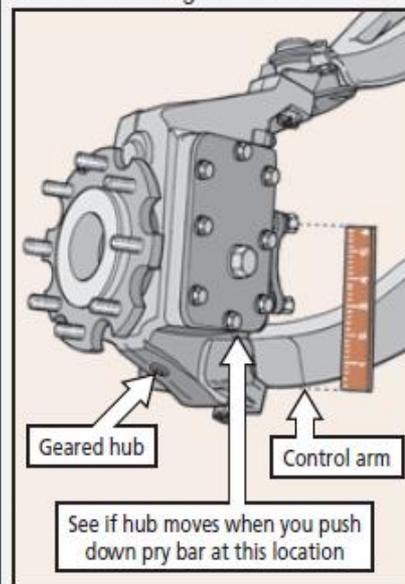
The -20 tells you to check for proper operation of ball joints using these steps:

1. Chock rear wheels front and back.
2. Raise front wheels about two inches off the ground and support on a jack stand.

For lower ball joints:

a. Mark a line across the head of the top bolt holding the steering arm cover. Make sure the mark is parallel to the lower control arm.

b. Put a pry bar between the cover control arm and geared hub.



c. Set a 6-in ruler upright between the lower control arm and the marked screw.

d. Push down the pry bar to try to move the hub.

e. Measure movement in the hub assembly. If movement is more than  $\frac{1}{8}$  inch, replace the lower ball joint.

You can also check for looseness in the lower ball joints by grasping the bottom of tires and attempting to move tires in and out. If tire movement at the bottom outer edge of tires is  $\frac{1}{2}$  inch or more, replace the lower ball joints.



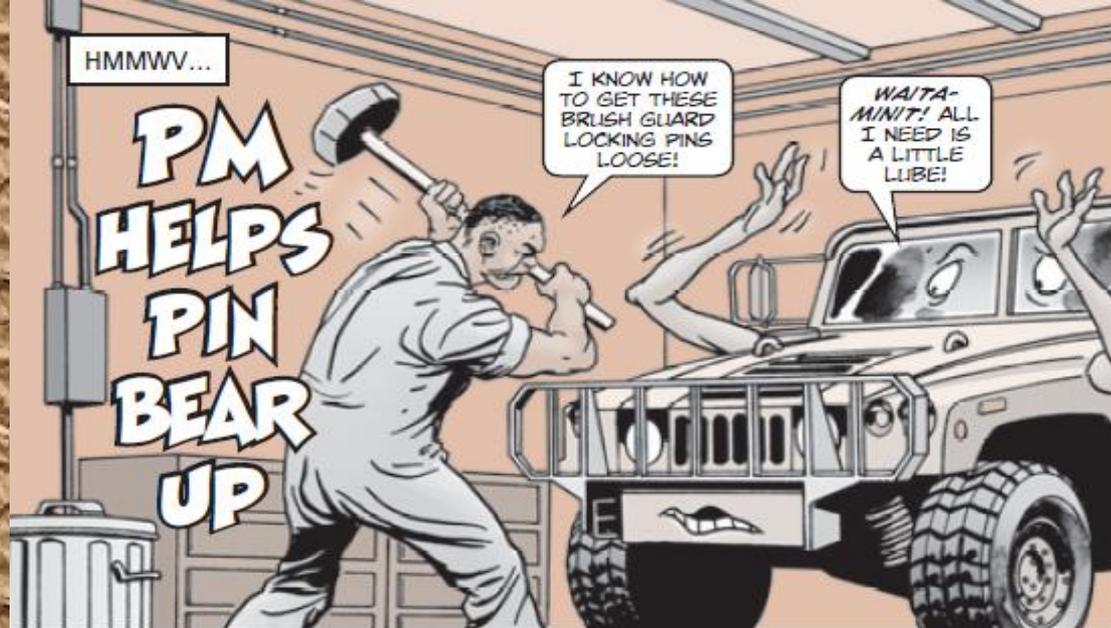
For upper ball joints:

a. Check for looseness of upper ball joints by grasping the top of tires and attempting to move tires in and out.



b. Measure any movement at the top outer edge of tire. Replace upper ball joints if tire movement is  $\frac{3}{8}$  inch or more.

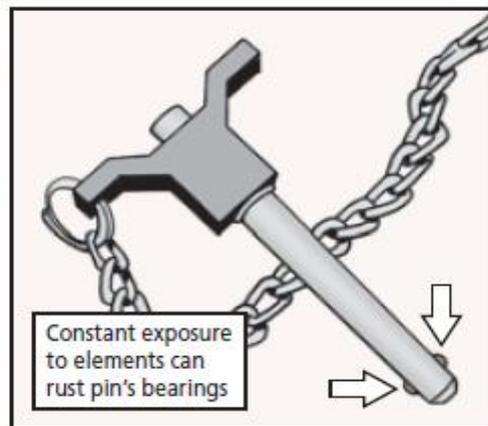
Half-Mast



That's true of the retractable ball bearings on the HMMWV brush guard's quick-release pin, too. All that constant exposure to the elements eventually rusts the bearings in place.

Then you're stuck with a pin that won't release and a brush guard that can't be raised or lowered.

Keep the pin's bearings moving with a shot of lubricating spray, NSN 9150-00-458-0075, as required. Just give the ball bearings a squirt, then slide the pin in and out of the brush guard a few times to work in the lube.



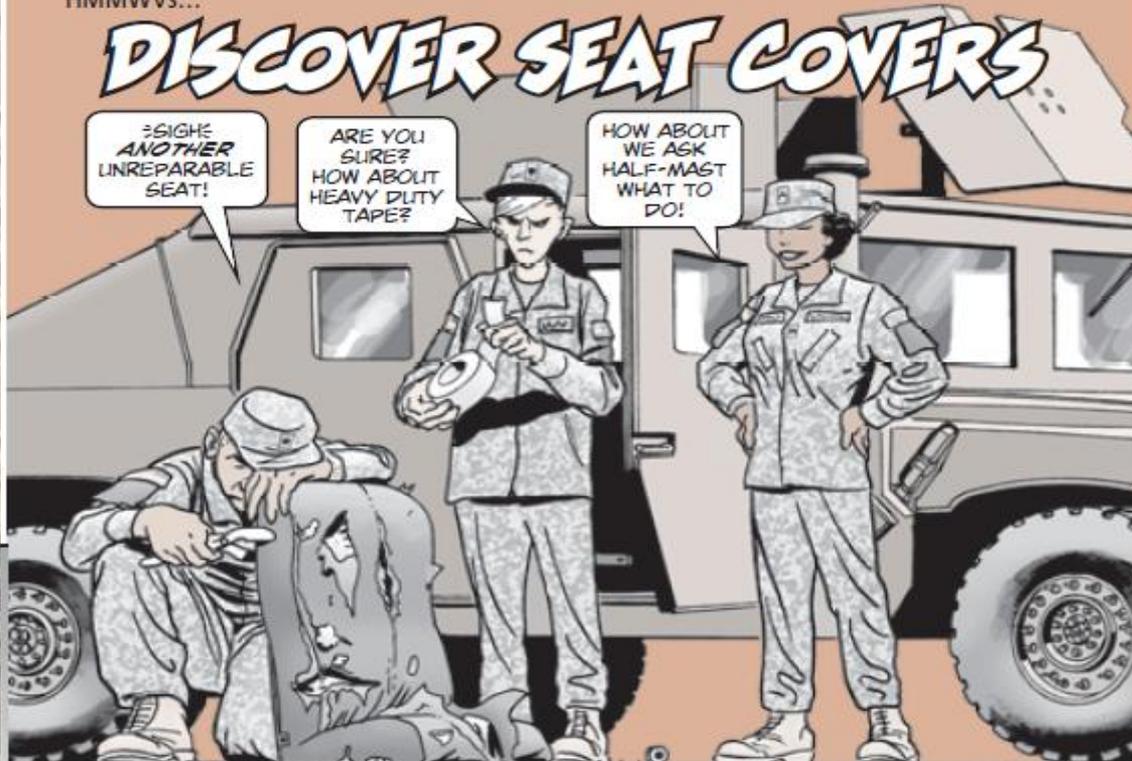
HMMWVs...

# DISCOVER SEAT COVERS

SIGH!  
ANOTHER  
UNREPAIRABLE  
SEAT!

ARE YOU  
SURE?  
HOW ABOUT  
HEAVY DUTY  
TAPE?

HOW ABOUT  
WE ASK  
HALF-MAST  
WHAT TO  
DO!



Dear Half-Mast,  
Does a seat cover exist for M998A1s with bucket-type front seats? When the seats rip, it seems like we shouldn't have to replace the entire seat assembly! Is there a more economical fix?

SSG J.C.J.

Dear Sergeant J.C.J.,

There is! But since there's no NSN, you'll have to order directly from the vendor, Isringhausen, Inc.

Use CAGE code 62226 and the part numbers from this chart to order what you need:

Item	Part Number	Color
Back rest cover	929383	Green
Back rest cover	917921	Tan
Seat bottom cover	929384	Green
Seat bottom cover	917922	Tan

Contact the vendor at (269) 484-5333 (OCONUS) or (800) 468-4774 (CONUS) or email:

[sales@isriusa.com](mailto:sales@isriusa.com)

*Half-Mast*

# OIL OVER-FILLING FIX



HEY, BUDDY, SAHEMÉ DID YOU KNOW YOU WERE LEAKING OIL?!



IT'S NOT MY FAULT... SOMEONE PUT TOO MUCH OIL IN ME!

If your unit has FMTVs with serial number 100,001 or higher, listen up! Trucks equipped with C7 engines can experience oil blow-by problems due to overfilling.

Overfilling engines can blow the extra oil out of the engine breather tube. That's why Caterpillar and TACOM have decided to lower the engine oil levels in the C7 engine crankcases from 24 to 22 quarts. This should solve the problem.

During normal PMCS oil change intervals, or whenever needed, units can re-mark their current C7 dipsticks, NSN 6680-01-568-9447, PN 252-0507, to the new 22-qt range or purchase a new 22-qt dipstick, NSN 6680-01-568-9447, PN 348-6030. FMTV LTAS (long term armor strategy) trucks with serial number 705248 and above should already have this new dipstick. They were installed at the factory.

## FMTV™ Changes to Come



HERE ARE SOME OF THE PMCS CHANGES YOU'LL SEE IN THE TMS LATER...

- At normal oil change intervals, allow the oil to drain from the oil pan for at least 20 minutes.

● Remove and replace the engine oil filter and use Caterpillar oil filter, NSN 2910-01-519-3768, PN 1R1807.



Do not remove engine oil filter while engine is hot. Failure to comply may result in severe injury to personnel.

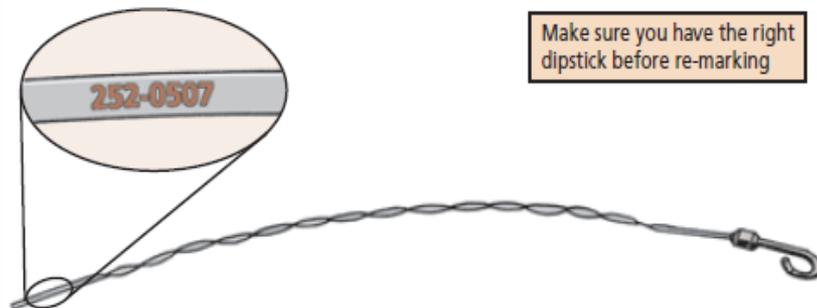
- Fill the C7 engine with 22 quarts of oil.
- Start and run the engine for at least 10 minutes and then shut it off.
- Wait at least 20 minutes before checking the oil level again.

THIS WARNING APPLIES TO OIL, TOO!



- After removing and wiping the dipstick, insert and remove it and observe the new oil "Full" level. If the oil level does not line up with the original dipstick "Full" range marks, etch a new "Full" line on the backside of the dipstick.

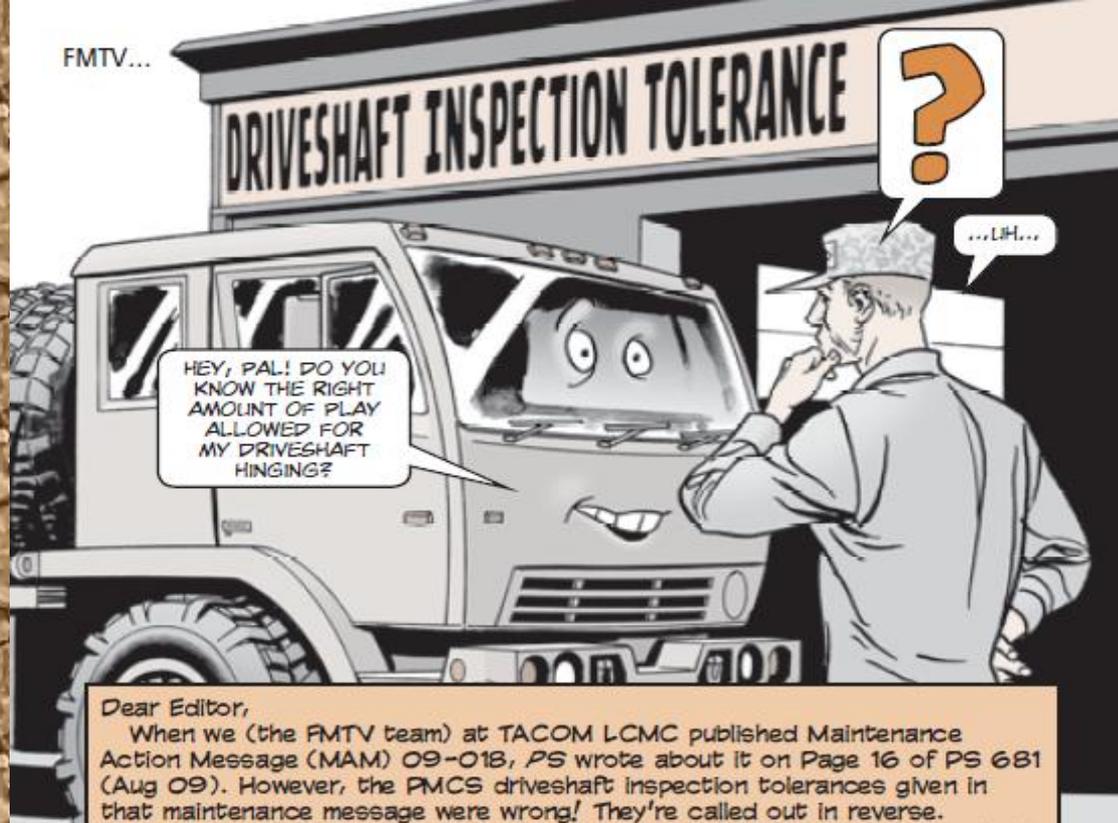
— Caution: Before re-marking your dipstick, ensure your original dipstick has part number 252-0507 stamped on the lower end.



- Note: Due to unknown quantities of residual oil draining back from engine components and cavities, re-marking of the dipstick may not always be necessary.
- If a new "Full" line was made, measure 1/2 inch down from that line and etch a new "Add" line.
- Using a suitable tool, make the old range markings on the front side of the dipstick unreadable.
- If the dipstick has been modified, keep future oil capacity levels between the new "Full & Add" marks made on the backside.

## Helpful Hint

Never add oil to an engine that has just been shut down. Wait at least 20 minutes to allow the oil level to stabilize in the crankcase. Checking and adding oil when the engine is first shut off will likely result in overfilling the engine!



Dear Editor,

When we (the FMTV team) at TACOM LCMC published Maintenance Action Message (MAM) 09-018, *PS* wrote about it on Page 16 of *PS* 681 (Aug 09). However, the PMCS driveshaft inspection tolerances given in that maintenance message were wrong! They're called out in reverse.

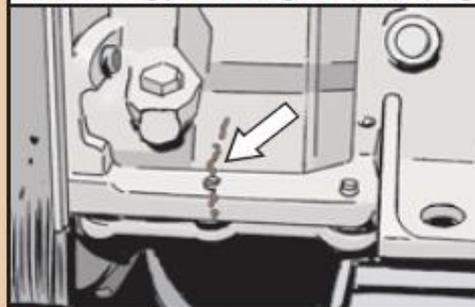
That's why the paragraph found in the last bullet of that *PS* article should be corrected to say:

*Perform the driveshaft hinging inspection. No more than 0.020 inch of play is allowed. Also, perform the radial end play inspection. No more than 0.006 inch of play is allowed. After the inspection is done, lube your truck's driveshaft universal joints.*

We'll tell the field to correct their MAM. Would you get word about this change to your readers?

Paul Kaminski  
FMTV Equipment Specialist  
TACOM LCMC, Warren, MI

Proper lubing prevents engine block cracking



*Editor's note: Consider it done, Paul. Thanks for this important update. Also, FMTV operators must lube the driveshaft monthly.*

Diesel Fuel...

# Leftover Fuel Rule

OPERATORS, YOUR FIELD EXERCISE IS OVER AND YOU'VE GOT PARTIALLY-FILLED 5-GAL CANS OF LEFTOVER FUEL.

WHAT DO YOU DO WITH IT?



YOU PUT THE FUEL INTO ANY VEHICLE THAT NEEDS IT, BUT **DON'T** STORE IT IN THE CAN!



STORED CANS GET MOISTURE INSIDE OF THEM FROM CONDENSATION AND RAIN.



MOISTURE CONTAMINATES FUEL.

CONTAMINATED FUEL CAN RUIN AN INJECTOR PUMP AND SHORTEN THE LIFE OF AN ENGINE.



STORING FUEL IS ALSO DANGEROUS.

A SPARK COULD BLOW UP THE CAN, THE STORAGE SHED AND ANYONE NEARBY.



PLS...

## DDEC III/IV Engine NSN

Dear Half-Mast,  
We hear there's a new NSN for the DDEC III/IV engine used on M1074/M1075 PLS' with the Allison 4500SP transmission. Can you tell me what it is?

SSG D.B.

Dear Sergeant D.B.,  
I can! You need NSN 2815-01-576-5292. And if you have any PLS with the old 775 transmission in your unit, keep using the engine that comes with NSN 2815-01-457-4835.

*Half-Mast*