

CUSTOMER #: [REDACTED]

248202

# Dick Hannah DEALERSHIPS

Dick Hannah Chrysler Jeep Dodge Ram

3517 N.E. Auto Mall Drive · Vancouver, WA 98662

Phone: 360-944-3291 · Fax 360-944-3220

P.O. Box 1679 Vancouver, WA 98668

www.dickhannahchrysler.com www.dickhannahjeep.com

www.dickhannahdodge.com www.dickhannahram.com

\*INVOICE\*

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SERVICE ADVISOR: [REDACTED]

COLOR	YEAR	MAKE/MODEL	VIN	LICENSE	MILEAGE IN / OUT	TAG	
	21	JEEP GLADIATOR	[REDACTED]		5012/5012	T4707	
DEL. DATE	PROD. DATE	WARR. EXP.	PROMISED	PO NO.	RATE	PAYMENT	INV. DATE
01JAN21 IS			18:00 30JUN22		0.00	CASH	30JUN22
01JAN21 DD							
R.O. OPENED	READY	OPTIONS: DLR:24173					

LINE	OPCODE	TECH	TYPE	HOURS	LIST	NET	TOTAL
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A PERFORM MUTI-POINT INSPECTION  
 89CHZ PERFORM MUTI-POINT INSPECTION  
 6974 ISPG (N/C)  
 PARTS: 0.00 LABOR: 0.00 OTHER: 0.00 TOTAL LINE A: 0.00  
 \*\*\*\*\*

B Check Engine Light is on. Very rough idle at times.  
 CAUSE: Vehicle is running rough and check engine light is on. Found multiple DTC's or o2 sensors and multiple cylinder misfires. Found PCM flash update available that fixes the P0300 Multiple Cylinder Misfires DTC. Rec. performing flash update and perform further diagnostics from there. Attempted to perform PCM flash and PCM will not accept the flash update. Disconnected battery for 10 minutes then did an ECU reset. Tried to update the PCM again and it is still not accepting the flash. Went to move vehicle out of the shop and vehicle powers on, but will not crank over. Now there is DTC's or for lost communication with PCM. Rec. replacing PCM for internal fault and retest.

REP Check Engine Light is on. Very rough idle at times.  
 6792 W (N/C)  
 1 68568654AB MODULE-ENGINE CONTROLLER (N/C)  
 2 68224424AA SENSOR-OXYGEN (N/C)  
 REP PCM Flash Update- 18-042-22 REV. A (Warranty) 6792 W (N/C)  
 REP PCM- Replace (Warranty) 6792 W (N/C)  
 REP 2/1 and 1/2 oxygen sensors heater circuits failed- replace both sensors and retest 6792 W (N/C)  
 PARTS: 0.00 LABOR: 0.00 OTHER: 0.00 TOTAL LINE B: 0.00  
 5012

Verified client concern, found CEL illuminated due to p0300 "multiple cylinder misfire" stored. P0052, P0138, and P0152 oxygen sensor DTC's also stored. TSB 18-042-22 recommends performing PCM

DESCRIPTION	TOTALS
LABOR AMOUNT	
PARTS AMOUNT	
GAS, OIL, LUBE	
SUBLET AMOUNT	
MISC. CHARGES	
TOTAL CHARGES	
DISCOUNT	
SALES TAX	
CUSTOMER SIGNATURE	
PLEASE PAY THIS AMOUNT	

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01JAN21 IS			18:00 30JUN22		0.00	CASH	30JUN22
01JAN21 DD							

R.O. OPENED	READY	OPTIONS:	DLR:24173
16:46 16JUN22	16:01 30JUN22		

LINE	OPCODE	TECH	TYPE	HOURS	LIST	NET	TOTAL
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software update to address p0300 DTC. Attempted PCM update and flash failed immediately. Attempted multiple resets and battery disconnects to recover PCM and was unsuccessful. PCM will not respond on BUS and is unrecoverable. Vehicle equipped with GPEC 5 controller. Removed and replaced PCM. Attempted to program new PCM multiple times and found flash fails at seemingly random intervals. Created STAR case 102149942 to address failure to program. STAR directed GR8 test of both main and aux batteries; Main: 910CCA Aux: 322CCA. Both pass. STAR then suggested removal of radio fuse then re-attempting flash. Removed radio fuse and updated PCM from 68568654AB to 68574282AD successfully. Performed PCM module specific procedures and started vehicle. Found vehicle is actively misfiring and setting DTC's P0052 "O2 sensor 2/1 heater circuit high" and P0138 "O2 sensor 1/2 high" both active. At STAR's direction removed ground G909B and cleaned stud, nut, and ground terminal from all corrosion. Reassembled vehicle and found no change in vehicle operation. Then disconnected XY200a connector to inspect for water ingress, discoloration or spread terminals. No corrosion or water present. Performed pin tension drag test on circuits k904 (12), K299 (14), and K141 (5) - all circuits nominal with expected pin tension. Then disconnected XY291A and inspected for corrosion and performed pin tension drag test on circuits k99 (23), k902 (24), and K41 (25) - all circuits nominal as well. Disconnected O2 2/1 and 1/2 sensors and installed 3156 bulb between Z909-K199 and Z909-K299 and actuated O2 heater supply via Witech and found both bulbs illuminate brightly confirming circuit integrity. 1/2 and 2/1 O2 sensors must be replaced and retested.

Installed new PCM and verified programming. Removed 1/2 and 2/1 oxygen sensors and replaced with new. Reassembled vehicle and cleared DTC's. Verified normal operation at this time with all oxygen sensors now reading between 1200-1400 degrees. Repair complete.

\*\*\*\*\*

C\*\* Warranty Lyft ride

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SUBLET AMOUNT	
MISC. CHARGES	
TOTAL CHARGES	
DISCOUNT	
SALES TAX	
CUSTOMER SIGNATURE	
PLEASE PAY THIS AMOUNT	

