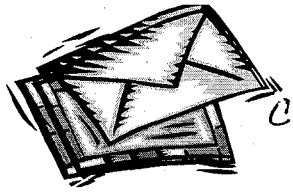
NHTSA ccmMercury Routing Slip



CL-10586962-9733

Printed: 5/2/2014

NHTSA #: ES14-001730	Rec'd Date: 5/2/2014	Referred By: NPO-011
XREF #:	Doc Type: GEN	Doc Date: 4/26/2014
Delivery: CRT	Address To: NOA010	**Due Date:**
S10 #:	DOT/I #:	RMP #:

Subject: SUBMISSION FROM [redacted] RE A FILED COMPLIANT WITH FORD MOTOR COMPANY AND WOULD LIKE TO BE REIMBURSE FOR ALL THE COST BY FORD

Ack Date:	Ack By:	
Sign Office: ENFORCEMENT	Signature: AS APPROPRIATE	Signed For:
Cleared Date:	Cleared By:	Cleared For:
File Loc:	XREF File:	**Closed Date: 5/2/2014**
Added By: CBUTLER x60180	Modified By: Chris.Butler	

Most Recent Comment:

Author:

[redacted]

BALTIMORE, MD [redacted]
Tel: [redacted] Fax: *E-mail:*

MAY - 5 2014

Assigned To	Task	Asgn Date	Deadline	Returned Date
NVS-200	APPROPRIATE	5/2/2014		5/2/2014
NVS-010	INFORMATION	5/2/2014		5/2/2014

NM
5514
SMD

[redacted]

[redacted]
Baltimore, Maryland [redacted]

April 26, 2014

Administrator
National Highway Traffic Safety Administration
1200 New Jersey Ave. S.E.
Washington, DC 20590

Dear Sir or Madam;

I filed a complaint with the Ford Motor Company about their defective product. I am asking the Ford Motor Company to reimburse me for all the cost of what I have paid out for the engine, battery cable and batteries.

Enclosed all receipts and all repair manual pages.

Sincerely,

[redacted]

ES14-001730

[redacted]

Baltimore, Maryland [redacted]

[redacted]

April 26, 2014

Mr. Alan Mulally, CEO
Ford Motor Company
P.O. Box 685
Dearborn, MI 48126-0685

Dear Sir;

On Monday, February 03, 2014, I started y 2003 Ford Explorer, it would not crank. I purchased a new battery, put it in, hooked it up, turned the key, starter relay kicked in, the engine still would not crank. I called the mechanic at the One Stop Auto Part, Inc, Garage. They sent a flat bed truck and towed it to their garage.

On Wednesday February 05, 2014 the Mechanic informed me that the engine had seized. There was no warning from the dash gauge indicators, no bad engine sounds, motor oil was at the proper level. The only motor oil I, ever used in my Explorer was Motor Craft 5 W 30 oil. The Ford Motor Company did not inform me that the V6 engine in the Explorer may seize. According to the Haynes Repair Manual, Ford Explorer 2002 thru 2010, the V6 engines may seize. My engine seized.

It cost me $3,669.98, for the replacement engine. I am asking to re reimbursed, 3,669.98 for the replacement engine and $154.59 for the new battery by the Ford Motor Company.

On Wednesday June 01, 2011, I purchased a new battery from Koons Ford Part Dept., for my 2007 Mustang Gt. 2 weeks later I notice corrosion build up around the positive battery cable and post. I cleaned the corrosion from the cable & post. It only got worse. Time after time I cleaned corrosion from the positive cable and post. I told Mr. Todd Pendergrast about the defective battery. He told me to take my Mustang to Koons Ford Service Dept. I did not take my Mustang GT to Koons Ford Service Dept., because some Koon's Ford personnel were involved in the insurance fraud, perjury and scandal, dealing with my 1993 Ford Mustang Gt.

The defective motor craft battery damaged the positive battery cable and part of the Mustang apron. The defective motor craft battery, positive post popped up from the battery leaking more acid. I purchased a new battery cable from Koon's Ford parts dept., at the cost of $153.21. I purchased a new none ford battery at the cost of $128.09. I am asking to be reimbursed $153,21 for the new battery cable and $128.09,

for the new battery, because of the defective motor craft battery. According to the Haynes repair manual, my 2007 Mustang GT engine may also seize. The Ford Motor Company has not informed me of this yet.

Enclosed:

receipt - battery $102.57

receipt – battery $128.09

receipt - battery $154.59

receipt - battery cable $153,21

receipt - engine $3,669.98

Haynes repair manual – copy-explore engine seize

Haynes repair manual-copy- mustang engine seize

Cc: Administrator
National Highway Traffic Safety Administration
1200 New Jersey Ave. S.E.
Washington, DC 20590

Sincerely,

[redacted]

KOONS FORD of BALTIMORE

6970 SECURITY BLVD
BALTIMORE, MD 21244
www.koons.com

HOURS
MON – FRI 7:00 - 5:30
SATURDAY 8:00 - 4:00

WHOLESALE DIRECT
410-281-2645
Toll Free: 1-800-247-9013

Invoice to: 000075		
WHOLESALE CASH	Payment	Cash
	Page	1
	Invoice#	683475
	Original Inv#	
	Invoiced	06/01/11 10:42
	PO#	
	Tax#	
	Salesperson	TODD PENDERGRAST

For Office Use	Vehicle Information
Slsp/Proj: 054/969 Stn: X0D Prt: X0S Lines: 1 Added: 06/01/11 10:40 28J001 77 003 Comp W	

PART NUMBER	DESC	BIN	QTY	LIST	SELL	TOTAL
BXT96R500	BATTERY	162	1	109.95	96.76	96.76

PAID
JUN 01 2011

Parts	Accessories	Misc/Deposits	Subtotal	Tax	Total Due
96.76	.00	.00	96.76	5.81	102.57

"The Factory Warranty Constitutes All Of The Warranties With Respect To The Sale Of This Item/Items. The Seller Hereby Expressly Disclaims All Warranties, Either Express Or Implied, Including Any Implied Warranty Of Merchantability Or Fitness For A Particular Purpose And The Seller Neither Assumes Nor Authorizes Any Other Person To Assume For It Any Liability In Connection With The Sale Of This Item/Items."

X

CUSTOMER

sears
AUTO CENTER

6963 - Sears, Roebuck and Co. 7885 Eastpoint Mall
Baltimore, MD 21224 (410) 288-7795
EPA Number: Facility Number:

FINAL INVOICE
INVOICE DATE: 02/21/2014

NAME: [redacted]	TAG #	INITIAL ESTIMATE	REVISED ESTIMATE	PHONE AUTHORIZATION	REF. NUM.
ADD:	YEAR/MAKE/MODEL: NO VEHICLE	PARTS $120.89			IN6410230
BALTIMORE, MD [redacted]	LICENSE #: NOT ON-SITE / COLOR	LABOR $0.00		APPROVED BY:	CREATED BY: 429589
PRI: [redacted]	V.I.N. / LOCATION	OTHER $0.00			
SEC:	ODOMETER IN / ODOMETER OUT	TAX $7.20		CONTACTED BY:	INVOICED BY: 429589
TIRE INSTALLATION INSTRUCTIONS		TOTAL $128.09			
LF RF SP LR RR	TIME IN / TIME OUT	DATE/TIME OF ESTIMATE: 02/21/2014 04:55 PM	DATE/TIME REVISED	NUMBER CALLED:	LOCAL PURCHASE PO NUMBER: 410230
	PROMISED TIME			DATE / TIME CALLED:	

AIR PRESSURE FRONT / REAR: REFER TO TIRE GUIDE

WHL. TORQUE SPECIFICATION: REFER TO TIRE GUIDE

See reverse for important warranty terms and other information.

COMMENTS/REQUESTS OR ALTERNATE CONTACTS:

WORK AUTHORIZED BY:
X

QTY		ITEM #	DESCRIPTION OF MERCHANDISE	PRICE EACH	TOTAL	TECH	CSA
1	PS	22850840	BATRY, GOLD DH GP 40R N	$119.99	$119.99 T		429589
1	AC	082027	CORE VALUE TAX	$0.90	$0.90		429589

RETAIN FOR COMPARISON WITH MONTHLY STATEMENT OR FOR RETURN OR EXCHANGE

Parts Subtotal:		$120.89
Labor Subtotal:		$0.00
Reductions Subtotal:		$0.00
Subtotal:		$120.89
Tax:	6.000%	$7.20
Total:		$128.09

RC: 9697-8953-3586-7657

Cash Tendered:	$130.00
Change Due:	-$1.91

Visit us at SYWR.com

SALESCHECK # [redacted]

ITEM / WARRANTY INFORMATION / LABOR DETAILS / COMMENTS

ALL NEW, NON-OEM PARTS UNLESS OTHERWISE SPECIFIED

Aftermarket TPMS Available. Verify TPMS.
WARRANTY:
22850840 : 36 Months Full Replacement Warranty - 36 Month Total Warranty

ALL LUG NUTS ON CUSTOM AND ALLOY WHEELS MUST BE RE-TORQUED AFTER 25 MILES AND CHECKED PERIODICALLY.

NOTICE:

(1) All labor performed and parts replaced were necessary to perform repairs authorized.

(2) Under certain circumstances, this repair facility may not be responsible for damage to the customer's vehicle while it is on the facility's premises. You should ask the management about the extent of its responsibility and its insurance coverage.

(3) **Manufacturer Special Policy Adjustment Programs:** Federal law requires manufacturers to furnish the National Highway Traffic Safety Administration (N.H.T.S.A.) with bulletins describing any defects in their vehicles. You may obtain copies of these bulletins either from the manufacturer or N.H.T.S.A. In addition, certain consumer publications or organizations publish this information, which may be available for a fee or for free.

Customer's Rights

(1) A customer: (i) May request a written estimate for repairs which cost in excess of $25.
(ii) May not be charged any amount ten percent in excess of the written estimate without the customer's consent.

(2) The customer is entitled to the return of any replaced parts except when parts are required to be returned to the manufacturer under a warranty agreement. If you do not want the parts, initial here: _____

(3) Repairs not originally authorized by the customer may not be charged to the customer without the customer's consent.

Customer Authorization: _____

I certify that this vehicle has been tested or test driven when necessary as that the mechanics work was performed satisfactorily.

FACILITY AUTHORIZED REPRESENTATIVE SIGNATURE: X _____

YOU ARE ENTITLED TO RECEIVE REPLACED AND REMOVED PARTS, OTHER THAN EXCHANGED OR WARRANTED PARTS WHICH WILL BE AVAILABLE FOR YOUR INSPECTION. TO OBTAIN FULL WARRANTY BENEFITS, YOU MUST PRESENT YOUR RECEIPT AND THE DEFECTIVE PRODUCT OR THE VEHICLE ON WHICH THE SERVICE WAS PERFORMED. Prices firm upon customer authorization. Labor charges based upon average industry standard time for repairs on typical vehicles, adjusted for local competitive conditions. No charge for repair price estimates or for vehicle storage.

sears
AUTO CENTER

6744 - Sears, Roebuck and Co. 8200 PERRYHALL BLVD
Whitemarsh, MD 21236 (410) 931-5595

EPA Number: Facility Number:

FINAL INVOICE
INVOICE DATE: 02/03/2014

NAME: [redacted]
ADD: [redacted]
BALTIMORE, MD [redacted]
PRI: [redacted]
SEC:

TAG #

YEAR/MAKE/MODEL
2003 FORD TRUCK EXPLORER V6-245 4.0L SOHC

LICENSE # **COLOR**

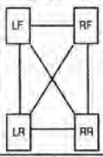
V.I.N. **LOCATION**

ODOMETER IN **ODOMETER OUT**

TIME IN **TIME OUT**

PROMISED TIME

TIRE INSTALLATION INSTRUCTIONS



INITIAL ESTIMATE	
PARTS	$145.89
LABOR	$0.00
OTHER	$0.00
TAX	$8.70
TOTAL	$154.59

DATE/TIME OF ESTIMATE
02/03/2014 02:01 PM

REVISED ESTIMATE

DATE/TIME REVISED

PHONE AUTHORIZATION

APPROVED BY:

CONTACTED BY:

NUMBER CALLED:

DATE / TIME CALLED:

REF. NUM.
IN6203998

CREATED BY:
509455

INVOICED BY:
509455

LOCAL PURCHASE PO NUMBER:
203998

AIR PRESSURE FRONT / REAR
30/35 - ALL O.E. APPLICATIONS

WHL. TORQUE SPECIFICATION
YLW/100 - ALL O.E. APPLICATIONS

See reverse for important warranty terms and other information.

COMMENTS/REQUESTS OR ALTERNATE CONTACTS:

WORK AUTHORIZED BY:
X

QTY		ITEM #	DESCRIPTION OF MERCHANDISE	PRICE EACH	TOTAL	TECH	CSA
1	PS	22850865	BATRY, GOLD DH GP 65 N	$144.99	$144.99 T		509455
1	AC	082027	CORE VALUE TAX	$0.90	$0.90		509455

RETAIN FOR COMPARISON WITH MONTHLY STATEMENT OR FOR RETURN OR EXCHANGE

Parts Subtotal:		$145.89
Labor Subtotal:		$0.00
Reductions Subtotal:		$0.00
Subtotal:		$145.89
Tax:	6.000%	$8.70
Total:		$154.59

RC: 9537-1699-9566-7657

Cash Tendered:	$170.00
Change Due:	-$15.41

Visit us at SYWR.com

SALESCHECK # [redacted]

ITEM / WARRANTY INFORMATION / LABOR DETAILS / COMMENTS

ALL NEW, NON-OEM PARTS UNLESS OTHERWISE SPECIFIED

Factory TPMS Available. Verify TPMS.
WARRANTY:
22850865 : 36 Months Full Replacement Warranty - 36 Month Total Warranty

ALL LUG NUTS ON CUSTOM AND ALLOY WHEELS MUST BE RE-TORQUED AFTER 25 MILES AND CHECKED PERIODICALLY.

NOTICE:

(1) All labor performed and parts replaced were necessary to perform repairs authorized.

(2) Under certain circumstances, this repair facility may not be responsible for damage to the customer's vehicle while it is on the facility's premises. You should ask the management about the extent of its responsibility and its insurance coverage.

(3) **Manufacturer Special Policy Adjustment Programs:** Federal law requires manufacturers to furnish the National Highway Traffic Safety Administration (N.H.T.S.A.) with bulletins describing any defects in their vehicles. You may obtain copies of these bulletins either from the manufacturer or N.H.T.S.A. In addition, certain consumer publications or organizations publish this information, which may be available for a fee or for free.

Customer's Rights

(1) A customer: (i) May request a written estimate for repairs which cost in excess of $25.
(ii) May not be charged any amount ten percent in excess of the written estimate without the customer's consent.

(2) The customer is entitled to the return of any replaced parts except when parts are required to be returned to the manufacturer under a warranty agreement. If you do not want the parts, initial here: _____

(3) Repairs not originally authorized by the customer may not be charged to the customer without the customer's consent.

Customer Authorization: _____

I certify that this vehicle has been tested or test driven when necessary as that the mechanics work was performed satisfactorily.

FACILITY AUTHORIZED REPRESENTATIVE SIGNATURE: X_____

YOU ARE ENTITLED TO RECEIVE REPLACED AND REMOVED PARTS, OTHER THAN EXCHANGED OR WARRANTED PARTS WHICH WILL BE AVAILABLE FOR YOUR INSPECTION. TO OBTAIN FULL WARRANTY BENEFITS, YOU MUST PRESENT YOUR RECEIPT AND THE DEFECTIVE PRODUCT OR THE VEHICLE ON WHICH THE SERVICE WAS PERFORMED. Prices firm upon customer authorization. Labor charges based upon average industry standard time for repairs on typical vehicles, adjusted for local competitive conditions. No charge for repair price estimates or for vehicle storage.

GENUINE PARTS

CERTIFIED PARTS WHOLESALING DEALER

HOURS
MON – FRI 7:00 - 5:30
SATURDAY 8:00 - 4:00

GENUINE POWERTRAIN Motorcraft

KOONS

KOONS FORD of BALTIMORE
6970 SECURITY BLVD
BALTIMORE, MD 21244
www.koons.com

Motorcraft

FORD RACING PERFORMANCE PARTS

POWER STROKE DIESEL

WHOLESALE DIRECT
410-281-2645
Toll Free: 1-800-247-9013

Invoice to: 000075		
WHOLESALE CASH	Payment	Cash
	Page	1
	Invoice#	739805
	Orig Inv#	
	Invoiced	02/11/14 09:58
	PO#	
	Tax#	
	Slsp	TODD PENDERGRAST

For Office Use	Vehicle Information
Slsp/Proj: 054/318 Stn: X0D Prt: X0S Lines: 1 Added: 02/11/14 09:58 28J001 77 003 Comp *	

PART NUMBER	DESC	BIN	QTY	LIST	SELL	TOTAL
8R3Z14300BA	*CABLE ASY - BATTERY		1	192.72	144.54	144.54

PAID
FEB 11
By cash

****PARTS WARRANTY INCREASED TO 24 MONTHS & UNLIMITED MILES!!****
EFFECTIVE OCTOBER 1ST, 2013 / ASK YOUR SALESPERSON FOR DETAILS

Parts	Accessories	Misc/Deposits	Subtotal	Tax	Total Due
144.54	.00	.00	144.54	8.67	153.21

"The Factory Warranty Constitutes All Of The Warranties With Respect To The Sale Of This Item/Items. The Seller Hereby Expressly Disclaims All Warranties, Either Express Or Implied, Including Any Implied Warranty Of Merchantability Or Fitness For A Particular Purpose, And The Seller Neither Assumes Nor Authorizes Any Other Person To Assume For It Any Liability In Connection With The Sale Of This Item/Items."

Picked:	Checked:	Driver:

Manufacturer guidelines require that all parts (new, cores & warranty claims) be returned in original packaging. Warranty claims must include a copy of invoice/repair-order showing date & mileage of original install and replacement, along with detailed description of part failure. New Parts must be returned in new/saleable condition. No returns on electrical parts, obsolete parts, or special orders. Damage claims must be submitted within 2 business days of delivery. New Part Returns must be submitted within 30 days of purchase date. All cores and warranty returns must be fully assembled and properly drained of fluids. All new part returns are subject to a 20% restocking fee.

X

CUSTOMER

One Stop Auto Parts Inc

3419 Greenmount Ave
Baltimore, MD 21218
410-889-9999

Owner's e-mail [redacted] **website www.889-8888.com**

[redacted]
BALTO MD [redacted]

Date	Invoice #
2/4/2014	179324

DATE IN	MILEAGE
	135178

YEAR/MAKE/MODEL	Rep	TAG #	WRITER
03 EXPLORER BURG	HP	53531M9	JG

QTY	Description	Rate	Amount
	THE MARYLAND TITLE FOR ONE STOP TO PLACE A LIEN ON THE VEHICLE ANY ADDITIONAL DEPOSIT MONEY, MONEY FOR RENTAL CAR BILL (IF YOU HAD ONE), MONEY FOR ANY ADDITIONAL REPAIRS YOU APPROVED OR ANY MONEY PAID OUT ON YOUR BEHALF .		
	REMEMBER, RENTAL CAR CHARGES CANNOT BE FINANCED.		
	YOU MUST BE AT ONE STOP AUTO BY 5 PM MON-FRI OR 1 PM SATURDAY IN ORDER TO COMPLETE FINANCING AND GET YOUR VEHICLE.THERE IS A $20 FEE FOR RECORDING A LIEN ON YOUR TITLE		
	$1400.00 DOWN $150.00 MONTH $20 FEE FOR FINANCING UPDATED	0.00	0.00T
	REPAIR FINANCED WITH LIEN ON MARYLAND TITLE $20 MVA FEE	20.00	20.00
	I HAVE THE AUTHORITY TO HAVE THE VEHICLE REPAIRED AND INSTRUCT ONE STOP TO PLEASE PROCEED	0.00	0.00T
	HAVE ADVISED CUSTOMER PRIOR TO STARTING REPAIR THAT THERE IS NO FREON IN SYSTEM AND RIGHT FRONT HUB BEARING IS FAULTY.	0.00	0.00T
	INSTALL DRIVE BELT ,UPPER RAD HOSE,REBUILT WATER PUMP, 12 MONTHS OR 12,000 MILES WHICHEVER COMES FIRST LIMITED WARRANTY	199.99	199.99T
	ANTI - LOCK BRAKE WARNING LIGHT ON DASH IS ON CUST AWARE WAS PRIOR AND DECLINED DANGEROUS	0.00	0.00T
	Maryland Sales Tax	6.00%	150.00

Total $3,669.98

CUSTOMER'S RIGHTS (STATE OF MARYLAND)
The customer may request a written estimate for repairs which cost in excess of $50.
The customer may not be charged for any amount ten (10) percent in excess of the written estimate without his consent.
The customer is entitled to the return of any replaced parts except when parts are required to be returned to the manufacturer under a warranty agreement.
Repairs not originally authorized by the customer may not be charged to the customer without the customer's consent.

I hereby authorize the above repair work if applicable. You, your employees, and your subcontractors may operate vehicle for purposes of testing, inspecting, delivery at my risk, including transport to other shops. I understand that One Stop subcontracts and may have my car repaired at another company, and I understand that my car may be parked on the street. An expressed mechanic's lien is acknowledged on above vehicle to secure the amount of repairs thereto. It is understood that One Stop will not be held responsible for loss or damage to cars or articles left in cars in case of fire, theft, or any other cause beyond their control. I have checked my vehicle and have left no valuables in my vehicle. I agree to arbitrate (see reverse side)

Save old parts? ____ Yes ____ No
If left unchecked, we will not save parts.

X_____

SEE REVERSE SIDE FOR IMPORTANT INFORMATION.

Ford Explorer

2002 thru 2010

Includes Mercury Mountaineer

36025

Haynes

Haynes Repair Manual

Based on a complete teardown and rebuild

PRINTED ON RECYCLED PAPER

Includes essential information for today's more complex vehicles

tion). Most likely the solenoid is defective. In some rare cases, the engine may be seized, so be sure to try and rotate the crankshaft pulley (see Chapter 2A or 2B) before proceeding. With the starter/solenoid assembly mounted in a vise on the bench, install one jumper cable from the negative battery terminal to the body of the starter. Install the other jumper cable from the positive battery terminal to the B+ terminal on the starter. Install a starter switch and apply battery voltage to the solenoid S terminal (for 10 seconds or less) and see if the solenoid plunger, shift lever and overrunning clutch extends and rotates the pinion drive. If the pinion drive extends but does not rotate, the solenoid is operating but the starter motor is defective. If there is no movement but the solenoid clicks, the solenoid and/or the starter motor is defective. If the solenoid plunger extends and rotates the pinion drive, the starter/solenoid assembly is working properly.

13 Starter motor - removal and installation

Refer to illustrations 13.3, 13.4, and 13.5

1 Disconnect the cable from the negative battery terminal (see Section 1).

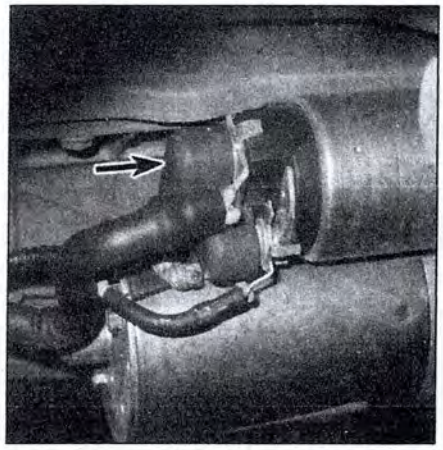
2 Raise the vehicle and support it securely on jackstands.

3 Remove the protective cover from the starter motor solenoid terminals **(see illustration)**.

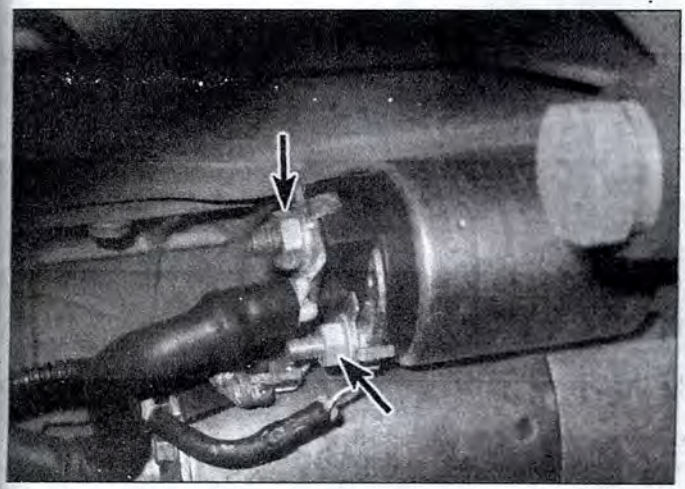
4 Disconnect the wiring from the terminals on the starter motor solenoid **(see illustration)**.

5 Remove the starter motor mounting bolts **(see illustration)** and detach the starter from the engine.

6 Installation is the reverse of removal. Be sure to tighten the starter bolts to the torque listed in this Chapter's Specifications.



13.3 To remove the starter motor solenoid terminal cover, pull it off (V6 model shown, V8 models similar)



13.4 Disconnect the starter circuit wiring from these two terminals on the starter solenoid (V6 model shown, V8 models similar)

13.5 To detach the starter motor from the engine, remove these two bolts (V6 model shown, V8 models similar)

Engine

1 Engine will not rotate when attempting to start

1 Battery terminal connections loose or corroded. Check the cable terminals at the battery; tighten cable clamp and/or clean off corrosion as necessary (see Chapter 1).
2 Battery discharged or faulty. If the cable ends are clean and tight on the battery posts, turn the key to the On position and switch on the headlights or windshield wipers. If they won't run, the battery is discharged.
3 Automatic transmission not engaged in park (P) or Neutral (N).
4 Broken, loose or disconnected wires in the starting circuit. Inspect all wires and connectors at the battery, starter solenoid and ignition switch (on steering column).
5 Starter motor pinion jammed in driveplate ring gear. Remove starter (Chapter 5) and inspect pinion and driveplate (Chapter 2).
6 Starter solenoid faulty (Chapter 5).
7 Starter motor faulty (Chapter 5).
8 Clutch pedal neutral start switch faulty.
9 Ignition switch faulty (Chapter 12).
10 Engine seized. Try to turn the crankshaft with a large socket and breaker bar on the pulley bolt.
11 Starter relay faulty (Chapter 5).

2 Engine rotates but will not start

1 Fuel tank empty.
2 Battery discharged (engine rotates slowly).
3 Battery terminal connections loose or corroded.
4 Fuel not reaching fuel injectors. Check for clogged fuel filter or lines and defective fuel pump. Also make sure the tank vent lines aren't clogged (Chapter 4).
5 Low cylinder compression. Check as described in Chapter 2C.
6 Water in fuel. Drain tank and fill with new fuel.
7 Defective ignition coil(s) (Chapter 5).
8 Dirty or clogged fuel injector(s) (Chapter 4).
9 Wet or damaged ignition components (Chapters 1 and 5).
10 Worn, faulty or incorrectly gapped spark plugs (Chapter 1).
11 Broken, loose or disconnected wires in the starting circuit (see previous Section).
12 Broken, loose or disconnected wires at the ignition coil or faulty coil (Chapter 5).
13 Timing chain failure or wear affecting valve timing (Chapter 2).
14 Fuel injection or engine control systems failure (Chapters 4 and 6).
15 Defective MAF sensor (Chapter 6)

3 Starter motor operates without turning engine

1 Starter pinion sticking. Remove the starter (Chapter 5) and inspect.
2 Starter pinion or driveplate teeth worn or broken. Remove the inspection cover and inspect.

4 Engine hard to start when cold

1 Battery discharged or low. Check as described in Chapter 1.
2 Fuel not reaching the fuel injectors. Check the fuel filter, lines and fuel pump (Chapters 1 and 4).
3 Defective spark plugs (Chapter 1).
4 Defective engine coolant temperature sensor (Chapter 6).
5 Fuel injection or engine control systems malfunction (Chapters 4 and 6).

5 Engine hard to start when hot

1 Air filter dirty (Chapter 1).
2 Bad engine ground connection.
3 Fuel injection or engine control systems malfunction (Chapters 4 and 6).

6 Starter motor noisy or engages roughly

1 Pinion or driveplate teeth worn or broken. Remove the inspection cover on the left side of the engine and inspect.
2 Starter motor mounting bolts loose or missing.

7 Engine starts but stops immediately

1 Loose or damaged wire harness connections at distributor, coil or alternator.
2 Intake manifold vacuum leaks. Make sure all mounting bolts/nuts are tight and all vacuum hoses connected to the manifold are attached properly and in good condition.
3 Insufficient fuel pressure (see Chapter 4).
4 Fuel injection or engine control systems malfunction (Chapters 4 and 6).

8 Engine 'lopes' while idling or idles erratically

1 Vacuum leaks. Check mounting bolts at the intake manifold for tightness. Make sure that all vacuum hoses are connected and in good condition. Use a stethoscope or a length of fuel hose held against your ear to listen for vacuum leaks while the engine is running. A hissing sound will be heard. A soapy water solution will also detect leaks. Check the intake manifold gasket surfaces.
2 Leaking EGR valve or plugged PCV valve (see Chapters 1 and 6).
3 Air filter clogged (Chapter 1).
4 Fuel pump not delivering sufficient fuel (Chapter 4).
5 Leaking head gasket. Perform a cylinder compression check (Chapter 2).
6 Timing chain(s) worn (Chapter 2).
7 Camshaft lobes worn (Chapter 2).
8 Valves burned or otherwise leaking (Chapter 2).
9 Ignition system not operating properly (Chapters 1 and 5).
10 Fuel injection or engine control systems malfunction (Chapters 4 and 6).

9 Engine misses at idle speed

1 Spark plugs faulty or not gapped properly (Chapter 1).
2 Faulty spark plug wires (Chapter 1).
3 Wet or damaged ignition components (Chapter 5).
4 Short circuits in ignition, coil or spark plug wires.
5 Sticking or faulty emissions systems (see Chapter 6).
6 Clogged fuel filter and/or foreign matter in fuel. Remove the fuel filter (Chapter 1) and inspect.
7 Vacuum leaks at intake manifold or hose connections. Check as described in Section
8 Low or uneven cylinder compression. Check as described in Chapter 2.
9 Fuel injection or engine control systems malfunction (Chapters 4 and 6).

10 Excessively high idle speed

1 Sticking throttle linkage (Chapter 4).
2 Vacuum leaks at intake manifold or hose connections. Check as described in Section 8.
3 Fuel injection or engine control systems malfunction (Chapters 4 and 6).

11 Battery will not hold a charge

1 Alternator drivebelt defective or not adjusted properly (Chapter 1).
2 Battery cables loose or corroded (Chapter 1).
3 Alternator not charging properly (Chapter 5).
4 Loose, broken or faulty wires in the charging circuit (Chapter 5).
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6 Battery defective internally.

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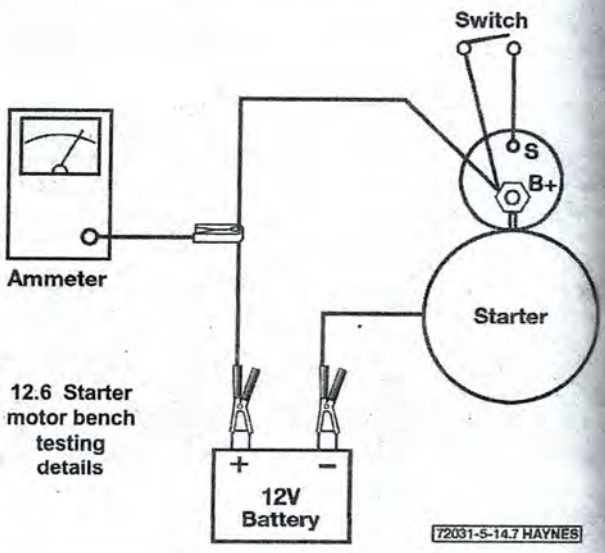
12.5 To measure starter current draw with an inductive ammeter, simply hold the ammeter over the positive or negative cable (whichever cable has better clearance)



12.6 Starter motor bench testing details

f) Make sure the starter is receiving voltage on the S terminal (the small wire) of the starter solenoid when the ignition key is turned to Start.

g) Check the operation of the Digital Transmission Range (DTR) sensor (automatic transmission) or clutch start switch (manual transmission). Make sure that the shift lever is in PARK or NEUTRAL. (automatic transmission) or the clutch pedal is pressed (manual transmission). The DTR sensor or clutch start switch must operate correctly to provide battery voltage to the ignition switch. To replace and/or adjust the DTR sensor, refer to Chapter 6. To replace and/or adjust the clutch start switch, refer to Chapter 8.

h) Check the operation of the starter relay. The starter relay is located in the fuse and relay box behind the right kick panel inside the vehicle. Refer to Chapter 12 for the relay testing procedure.

2 If the starter does not actuate when the ignition switch is turned to the START position, check for battery voltage to the solenoid. Connect a test light or voltmeter to the starter solenoid positive terminal and have an assistant turn the ignition switch to the START position.

3 If there's no voltage at the solenoid, check the ignition switch fuse and the starter relay.

4 If there is voltage at the solenoid, but the starter motor does not operate, remove the starter (see Section 13) and bench test it (see Step 6).

5 If the starter turns over slowly, check the starter cranking voltage and the current draw from the battery. This test must be performed with the starter assembly on the engine. Crank the engine over (for 10 seconds or less) and observe the battery voltage. It should not drop below 8.0 volts on manual transmission models or 8.5 volts on automatic transmission models. Also, observe the current draw using an ammeter **(see illustration)**. It should not exceed 400 amps or drop below 250 amps. **Caution:** *The battery cables may be excessively heated because of the large amount of amperage being drawn from the battery. Discontinue the testing until the starting system has cooled down.* If the starter motor cranking *amp values are not within the correct range*, replace it with a new unit. There are several conditions that may affect the starter cranking potential. The battery must be in good condition and the battery cold-cranking rating must not be under-rated for the particular application. Be sure to check the battery specifications carefully. The battery terminals and cables must be clean and not corroded. Also, in cases of extreme cold temperatures, make sure the battery and/or engine block is warmed before performing the tests.

6 If the starter is getting voltage but doesn't operate, remove the starter/solenoid assembly (see Section 13) and test it on the bench **(see illustration)**. Most likely the solenoid is defective. In some rare cases, the engine might be seized, so be sure to try to rotate the crankshaft pulley (see Chapter 2A or 2B) before proceeding. With the starter/solenoid assembly mounted in a vise on the bench, install one jumper cable from the negative battery terminal to the body of the starter. Install the other jumper cable from the positive battery terminal to the B+ terminal on the starter. Install a starter switch and apply battery voltage to the solenoid S terminal (for 10 seconds or less) and see if the solenoid plunger, shift lever *and overrunning clutch extends and rotates* the pinion drive. If the pinion drive extends but does not rotate, the solenoid is operating but the starter motor is defective. If there is no movement but the solenoid clicks, the solenoid and/or the starter motor is defective. If the solenoid plunger extends and rotates the pinion drive, the starter/solenoid assembly is working properly.

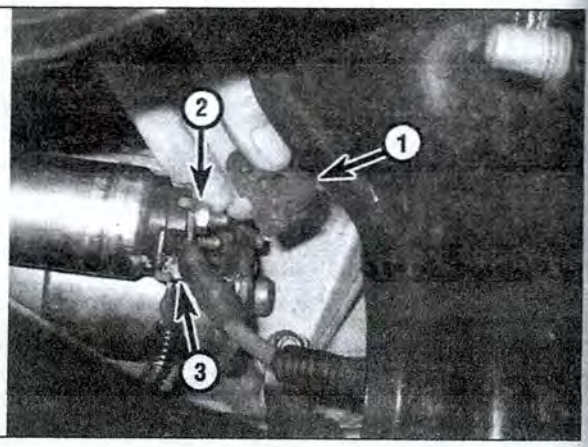
13 Starter motor - removal and installation

Refer to illustrations 13.3 and 13.4

1 Disconnect the cable from the negative battery terminal (see Section 1).

2 Raise the vehicle and support it securely on jackstands.

3 Disconnect the wiring from the terminals



13.3 Remove the protective cover (1) from the B+ terminal, remove the nut (2) and disconnect the battery cable from the B+ terminal on the solenoid, then remove the other nut (3) and disconnect the starter cable from the S terminal on the solenoid

Engine

1 Engine will not rotate when attempting to start

1 Battery terminal connections loose or corroded. Check the cable terminals at the battery; tighten cable clamp and/or clean off corrosion as necessary (see Chapter 1).
2 Battery discharged or faulty. If the cable ends are clean and tight on the battery posts, turn the key to the On position and switch on the headlights or windshield wipers. If they won't run, the battery is discharged.
3 Automatic transmission not engaged in park (P) or Neutral (N).
4 Broken, loose or disconnected wires in the starting circuit. Inspect all wires and connectors at the battery, starter solenoid and ignition switch (on steering column).
5 Starter motor pinion jammed in flywheel/driveplate ring gear. Remove the starter (Chapter 5) and inspect the pinion and ring gear (Chapter 2).
6 Starter solenoid faulty (Chapter 5).
7 Starter motor faulty (Chapter 5).
8 Ignition switch faulty (Chapter 12).
9 Engine seized. Try to turn the crankshaft with a large socket and breaker bar on the pulley bolt.
10 Starter relay faulty (Chapter 4).
11 Transmission Range (TR) sensor out of adjustment or defective (Chapter 6).

2 Engine rotates but will not start

1 Fuel tank empty.
2 Battery discharged (engine rotates slowly).
3 Battery terminal connections loose or corroded.
4 Fuel not reaching fuel injectors. Check for clogged fuel filter or lines and defective fuel pump. Also make sure the tank vent lines aren't clogged (Chapter 4).
5 Low cylinder compression. Check as described in Chapter 2.
6 Water in fuel. Drain tank and fill with new fuel.
7 Defective ignition coil(s) (Chapter 5).
8 Dirty or clogged fuel injector(s) (Chapter 4).
9 Wet or damaged ignition components (Chapters 1 and 5).
10 Worn, faulty or incorrectly gapped spark plugs (Chapter 1).
11 Broken, loose or disconnected wires in the starting circuit (see previous Section).
12 Broken, loose or disconnected wires at the ignition coil or faulty coil (Chapter 5).
13 Timing chain failure or wear affecting valve timing (Chapter 2).
14 Fuel injection or engine control systems failure (Chapters 4 and 6).
15 Defective MAF sensor (Chapter 6)

3 Starter motor operates without turning engine

1 Starter pinion sticking. Remove the starter (Chapter 5) and inspect.
2 Starter pinion or flywheel/driveplate teeth worn or broken. Remove the inspection cover and inspect.

4 Engine hard to start when cold

1 Battery discharged or low. Check as described in Chapter 1.
2 Fuel not reaching the fuel injectors. Check the fuel filter, lines and fuel pump (Chapters 1 and 4).
3 Defective spark plugs (Chapter 1).
4 Defective engine coolant temperature sensor (Chapter 6).
5 Fuel injection or engine control systems malfunction (Chapters 4 and 6).

5 Engine hard to start when hot

1 Air filter dirty (Chapter 1).
2 Fuel not reaching the fuel injection (see Section 4). Check for a vapor lock situation, brought about by clogged fuel tank vent lines.
3 Bad engine ground connection.
4 Fuel injection or engine control systems malfunction (Chapters 4 and 6).

6 Starter motor noisy or engages roughly

1 Pinion or driveplate teeth worn or broken. Remove the inspection cover on the left side of the engine and inspect.
2 Starter motor mounting bolts loose or missing.

7 Engine starts but stops immediately

1 Loose or damaged wire harness connections at coil or alternator.
2 Intake manifold vacuum leaks. Make sure all mounting bolts/nuts are tight and all vacuum hoses connected to the manifold are attached properly and in good condition.
3 Insufficient fuel pressure (see Chapter 4).
4 Fuel injection or engine control systems malfunction (Chapters 4 and 6).

8 Engine 'lopes' while idling or idles erratically

1 Vacuum leaks. Check mounting bolts at the intake manifold for tightness. Make sure that all vacuum hoses are connected and in good condition. Use a stethoscope or a length of fuel hose held against your ear to listen for vacuum leaks while the engine is running. A hissing sound will be heard. A soapy water solution will also detect leaks. Check the intake manifold gasket surfaces.
2 Leaking EGR valve or plugged PCV valve (see Chapters 1 and 6).
3 Air filter clogged (Chapter 1).
4 Fuel pump not delivering sufficient fuel (Chapter 4).
5 Leaking head gasket. Perform a cylinder compression check (Chapter 2).
6 Timing chain(s) worn (Chapter 2).
7 Camshaft lobes worn (Chapter 2).
8 Valves burned or otherwise leaking (Chapter 2).
9 Ignition system not operating properly (Chapters 1 and 5).
10 Fuel injection or engine control systems malfunction (Chapters 4 and 6).

9 Engine misses at idle speed

1 Spark plugs faulty or not gapped properly (Chapter 1).
2 Faulty spark plug wires (Chapter 1).
3 Short circuits in ignition, coil or spark plug wires.
4 Sticking or faulty emissions systems (see Chapter 6).
5 Clogged fuel filter and/or foreign matter in fuel. Remove the fuel filter (Chapter 1) and inspect.
6 Vacuum leaks at intake manifold or hose connections. Check as described in Section 12.
7 Low or uneven cylinder compression. Check as described in Chapter 2.
8 Fuel injection or engine control systems malfunction (Chapters 4 and 6).

10 Excessively high idle speed

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