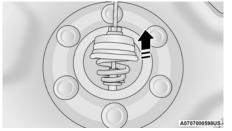
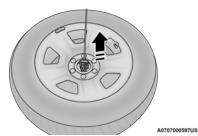
Lift the spare tire with one hand to give clearance to tilt the retainer at the end of the cable.



Tilting The Retainer Through The Center Of The Wheel

 Pull the retainer through the center of the wheel.



**Pulling The Retainer Through The Center Of The Wheel** 

#### NOTE:

The winch mechanism is designed for use with the extension tubes only. Use of an air wrench or other power tools is not recommended and can damage the winch.

# **JACKING INSTRUCTIONS**

#### WARNING!

Carefully follow these tire changing warnings to help prevent personal injury or damage to your vehicle:

- Always park on a firm, level surface as far from the edge of the roadway as possible before raising the vehicle.
- Turn on the Hazard Warning Flashers.
- Apply the parking brake firmly and set the transmission in PARK.
- Block the wheel diagonally opposite the wheel to be raised.
- Never start or run the engine with the vehicle on a jack.
- Do not let anyone sit in the vehicle when it is on a jack.

(Continued)

# WARNING! (Continued)

- Do not get under the vehicle when it is on a jack. If you need to get under a raised vehicle, take it to a service center where it can be raised on a lift.
- Only use the jack in the positions indicated and for lifting this vehicle during a tire change.
- If working on or near a roadway, be extremely careful of motor traffic.
- To assure that spare tires, flat or inflated, are securely stowed, spares must be stowed with the valve stem facing the ground.



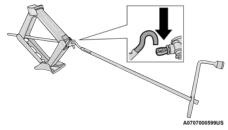
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**Jack Warning Label** 

#### CAUTION!

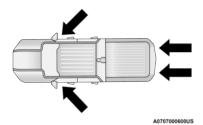
Do not attempt to raise the vehicle by jacking on locations other than those indicated in the Jacking Instructions for this vehicle.

- 1. Remove the spare tire, jack, and tools from the stored location.
- 2. Using the lug wrench, loosen the wheel nuts (but do not remove), by turning them counterclockwise one turn while the wheel is still on the ground.
- 3. Assemble the jack and jacking tools. Connect the jack handle driver to the extension, then to the lug wrench.



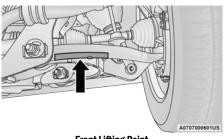
Assembled Jack And Tools

4. Placement for the front and rear jacking locations are critical. See below images for proper jacking locations.

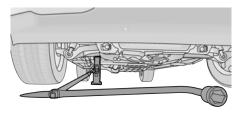


**Jack / Extensions Placement** Front Jacking Location

When changing a front wheel, place the scissor jack under the rear portion of the lower control arm as shown. Access the front jacking location from behind the front tire.

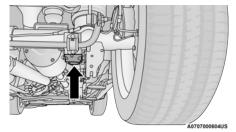


**Front Lifting Point** 

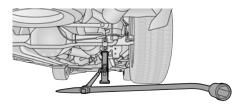


# Front Jacking Location Rear Jacking Location

Operate the jack using the extension with jack hook and the lug wrench. The extension tubes may be used but is not required. When changing a rear wheel, assemble the extension with jack hook to the jack and connect the extension tubes. Access the rear jacking location from behind the rear tire. Place the jack under the Jack Lifting Point located on the rear axle lower control arm bracket. Then locate the slot in the jack lift plate onto the rear axle Jack Lifting Point. Attach the extension with jack hook extending to the rear of the vehicle.



**Rear Lifting Point** 



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#### **Rear Jacking Location**

Connect the long extensions to the lug wrench.

## CAUTION!

Before raising the wheel off the ground, make sure that the jack will not damage surrounding truck parts and adjust the jack position as required.

5. By rotating the lug wrench clockwise, raise the vehicle until the wheel just clears the ground surface.

#### WARNING!

Raising the vehicle higher than necessary can make the vehicle less stable. It could slip off the jack and hurt someone near it. Raise the vehicle only enough to remove the tire.

- 6. Remove the lug nuts and pull the wheel off. Install the spare wheel and lug nuts with the cone shaped end of the lug nuts toward the wheel. Hand tighten the lug nuts with the vehicle lifted. To avoid the risk of forcing the vehicle off the jack, do not fully tighten the lug nuts until the vehicle has been completely lowered.
- 7. Finish tightening the lug nuts. Push down on the wrench handle for increased leverage. Tighten the lug nuts in a star pattern until each lug nut has been tightened twice page 467. If in doubt about the correct tightness, have them checked with a torque wrench by an authorized dealer or at a service station.

#### WARNING!

A loose tire or jack thrown forward in a collision or hard stop, could endanger the occupants of the vehicle. Always stow the jack parts and the spare tire in the places provided.

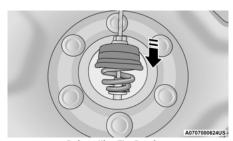
- 8. If your vehicle is equipped with a wheel center cap, install the cap and remove the wheel blocks. Do not install chrome or aluminum wheel center caps on the spare wheel. This may result in cap damage.
- 9. Lower the jack to its fully closed position. Stow the replaced tire, and secure the jack and tools in the proper location.
- 10. Adjust the tire pressure when possible.

## To Stow The Flat Or Spare

#### WARNING!

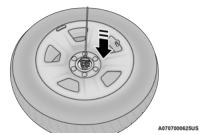
A loose tire or jack thrown forward in a collision or hard stop could endanger the occupants of the vehicle. Always stow the jack parts and the spare tire in the places provided. Have the deflated (flat) tire repaired or replaced immediately.

1. Turn the wheel so that the valve stem is facing upward and toward the rear of the vehicle for convenience in checking the spare tire inflation. Slide the wheel retainer through the center of the wheel.



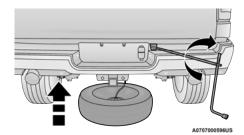
**Reinstalling The Retainer** 

2. Lift the spare tire with one hand to give clearance to tilt the retainer at the end of the cable and position it properly across the wheel opening.



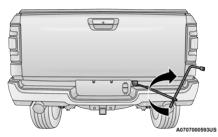
Pushing The Retainer Through The Center Of The Wheel **And Positioning It** 

3. Remove the extension with the hook and reattach the short extension 5. Attach the lug wrench to the extension tubes with the curved angle facing away from the vehicle ⇒ page 378. Insert the extension tubes through the access hole between the lower tailgate and the top of the fascia/bumper and into the winch mechanism tube.



**Reinstalling The Flat Or Spare Tire** 

4. Rotate the lug wrench handle clockwise until the wheel is drawn into place against the underside of the vehicle. Continue to rotate until you feel the winch mechanism slip, or click three or four times. It cannot be overtightened. Push against the tire several times to ensure it is firmly in place.



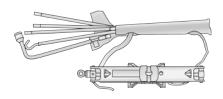
**Rotating The Lug Wrench Handle** 

#### NOTE:

The winch mechanism is designed for use with the extension tube only. Use of an air wrench or other power tools is not recommended and can damage the winch.

## REINSTALLING THE JACK AND TOOLS

- Tighten the jack all the way down by turning the jack turn-screw counterclockwise until the jack is snug.
- Position the jack and tool bag. Make sure the lug wrench is under the jack near the jack turn-screw.



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#### Jack And Tool Bag

3. Secure the tool bag straps to the jack.



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#### **Jack And Tools Tied**

4. Place the jack and tools in the storage position holding the jack by the jack turn-screw, slip the jack and tools under the seat so that the bottom slot engages into the fastener on the floor.

#### NOTE:

Ensure that the jack slides into the front hold down location.

5. Turn the wing bolt clockwise to secure to the floor pan. Reinstall the plastic cover.



**Jack Hold Down Wing Bolt** 

### WARNING!

After using the jack and tools, always reinstall them in the original carrier and location. While driving you may experience abrupt stopping, rapid acceleration or sharp turns. A loose jack, tools, bracket or other objects in the vehicle may move around with force, resulting in serious injury.

# **JUMP STARTING**

If your vehicle has a discharged battery, it can be jump started using a set of jumper cables and a battery in another vehicle, or by using a portable battery booster pack. Jump starting can be dangerous if done improperly, so please follow the procedures in this section carefully.

## WARNING!

Do not attempt jump starting if the battery is frozen. It could rupture or explode and cause personal injury.

# CAUTION!

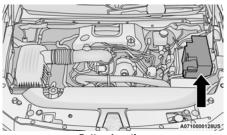
Do not use a portable battery booster pack or any other booster source with a system voltage greater than 12 Volts or damage to the battery, starter motor, alternator or electrical system may occur.

#### NOTE:

When using a portable battery booster pack, follow the manufacturer's operating instructions and precautions.

## PREPARATIONS FOR JUMP START

The battery in your vehicle is located in the front of the engine compartment, behind the left headlight assembly.



**Battery Location** 

#### NOTE:

The positive battery post may be covered with a protective cap. Lift up on the cap to gain access to the positive battery post. Do not jump off fuses. Only jump directly off positive post which has a positive (+) symbol on or around the post.



**Positive Battery Post** 

See below steps to prepare for jump starting:

- Apply the parking brake, shift the automatic transmission into PARK and turn the ignition OFF.
- 2. Turn off the heater, radio, and all electrical accessories.
- Pull upward and remove the protective cover over the remote positive (+) battery post.
- If using another vehicle to jump start the battery, park the vehicle within the jumper cables' reach, apply the parking brake and make sure the ignition is OFF.

#### WARNING!

- Take care to avoid the radiator cooling fan whenever the hood is raised. It can start anytime the ignition switch is ON. You can be injured by moving fan blades.
- Remove any metal jewelry such as rings, watch bands and bracelets that could make an inadvertent electrical contact. You could be seriously injured.
- Batteries contain sulfuric acid that can burn your skin or eyes and generate hydrogen gas which is flammable and explosive. Keep open flames or sparks away from the battery.

#### WARNING!

Do not allow vehicles to touch each other as this could establish a ground connection and personal injury could result.

# JUMP STARTING PROCEDURE

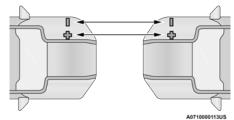
#### WARNING!

Failure to follow this jump starting procedure could result in personal injury or property damage due to battery explosion.

## **CAUTION!**

Failure to follow these procedures could result in damage to the charging system of the booster vehicle or the discharged vehicle.

# **Connecting The Jumper Cables**



**Jumper Cable Connections** 

 Connect the positive (+) end of the jumper cable to the positive (+) post of the discharged vehicle.

#### NOTE:

Do not jump off fuses. Only jump directly off positive post.

- Connect the opposite end of the positive (+)
  jumper cable to the positive (+) post of the
  booster battery.
- Connect the negative (-) end of the jumper cable to the negative (-) post of the booster battery.
- 4. Connect the opposite end of the negative (-) jumper cable to a good engine ground. A "ground" is an exposed metallic/unpainted part of the engine, frame or chassis, such as an accessory bracket or large bolt. The ground must be away from the battery and the fuel injection system.

### WARNING!

Do not connect the jumper cable to the negative (-) post of the discharged battery. The resulting electrical spark could cause the battery to explode and could result in personal injury.

Start the engine in the vehicle that has the booster battery, let the engine idle a few minutes, and then start the engine in the vehicle with the discharged battery.

#### CAUTION!

Do not connect jumper cable to any of the fuses on the positive battery terminal. The resulting electrical current will blow the fuse.

6. Once the engine is started, follow the disconnection procedure below.

#### **Disconnecting The Jumper Cables**

- Disconnect the negative (-) end of the jumper cable from the engine ground of the vehicle with the discharged battery.
- Disconnect the opposite end of the negative (-) jumper cable from the negative (-) post of the booster battery.

- Disconnect the positive (+) end of the jumper cable from the positive (+) post of the booster battery.
- Disconnect the opposite end of the positive (+) jumper cable from the positive (+) post of the vehicle with the discharged battery.

If frequent jump starting is required to start your vehicle you should have the battery and charging system inspected at an authorized dealer.

#### CAUTION!

Accessories plugged into the vehicle power outlets draw power from the vehicle's battery, even when not in use (i.e., cellular devices, etc.). Eventually, if plugged in long enough without engine operation, the vehicle's battery will discharge sufficiently to degrade battery life and/or prevent the engine from starting.

# **REFUELING IN EMERGENCY – IF EQUIPPED**

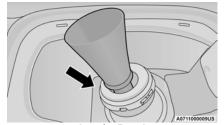
The fuel filling procedure in case of an emergency is described on ♀ page 208.

The vehicle is equipped with a refueling funnel. If refueling is necessary, while using an approved gas can, please insert the refueling funnel into the filler neck opening.



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### **Refueling Funnel**



**Inserting Funnel** 

# IF YOUR ENGINE OVERHEATS

If the vehicle is overheating, it will need to be serviced by an authorized dealer.

In any of the following situations, you can reduce the potential for overheating by taking the appropriate action.

- On the highways slow down.
- In city traffic while stopped, place the transmission in NEUTRAL (N), but do not increase
  the engine idle speed while preventing
  vehicle motion with the brakes.

#### NOTE:

There are steps that you can take to slow down an impending overheat condition:

- If your Air Conditioner (A/C) is on, turn it off.
   The A/C system adds heat to the engine cooling system and turning the A/C off can help remove this heat.
- You can also turn the temperature control to maximum heat, the mode control to floor and the blower control to high. This allows the heater core to act as a supplement to the radiator and aids in removing heat from the engine cooling system.

#### WARNING!

You or others can be badly burned by hot engine coolant (antifreeze) or steam from your radiator. If you see or hear steam coming from under the hood, do not open the hood until the radiator has had time to cool. Never try to open a cooling system pressure cap when the radiator or coolant bottle is hot.

#### CAUTION!

Driving with a hot cooling system could damage your vehicle. If the temperature gauge reads HOT (H), pull over and stop the vehicle. Idle the vehicle with the air conditioner turned off until the pointer drops back into the normal range. If the pointer remains on HOT (H), and you hear continuous chimes, turn the engine off immediately and call for service.

# MANUAL PARK RELEASE

#### WARNING!

Always secure your vehicle by fully applying the parking brake before activating the Manual Park Release. In addition, you should be seated in the driver's seat with your foot firmly on the brake pedal when activating the Manual Park Release. Activating the Manual Park Release will allow your vehicle to roll away if it is not secured by the parking brake. or by proper connection to a tow vehicle. Activating the Manual Park Release on an unsecured vehicle could lead to serious injury or death for those in or around the vehicle.

In order to move the vehicle in cases where the transmission will not shift out of PARK (P) (such as a depleted battery), a Manual Park Release is available.

Follow these steps to activate the Manual Park Release:

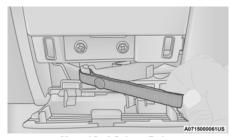
- 1. Apply firm pressure to the brake pedal while seated in the driver's seat.
- 2. Apply the parking brake if possible.

3. Using a small screwdriver or similar tool, open the Manual Park Release cover, which is located to the lower left of the steering column.



Manual Park Release Access Cover

4. Behind the Manual Park Release access cover is the orange tether strap. Pull the tether strap out as far as it will go, then release it. The tether and lever will remain outside of the trim panel and the transmission should now be in NEUTRAL. allowing the vehicle to be moved.

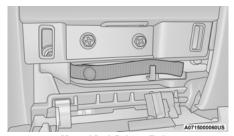


**Manual Park Release Tether** 

#### To Reset The Manual Park Release:

- 1. Apply firm pressure to the brake pedal while seated in the driver's seat.
- 2. Pull the tether strap out again, then release it.

3. Allow the tether to retract with the lever back to its original position.



Manual Park Release Tether

- 4. Verify the transmission is in PARK.
- Confirm that the tether has retracted fully and re-install the access cover. If the access cover cannot be reinstalled, repeat steps 1 through 4.

#### NOTE:

When the lever is locked in the released position the access cover cannot be reinstalled.

# FREEING A STUCK VEHICLE

If your vehicle becomes stuck in mud, sand, or snow, it can often be moved using a rocking motion. Turn the steering wheel right and left to clear the area around the front wheels. Then shift back and forth between DRIVE (D) and REVERSE (R), while gently pressing the accelerator. Use the least amount of accelerator pedal pressure that will maintain the rocking motion, without spinning the wheels or racing the engine.

#### NOTE:

Shifts between DRIVE and REVERSE can only be achieved at wheel speeds of 5 mph (8 km/h) or less. Whenever the transmission remains in NEUTRAL (N) for more than two seconds, you must press the brake pedal to engage DRIVE or REVERSE.

Push the "ESC OFF" switch to place the Electronic Stability Control (ESC) system in "Partial OFF" mode, before rocking the vehicle 

page 312. Once the vehicle has been freed, push the "ESC OFF" switch again to restore "ESC On" mode.

#### WARNING!

Fast spinning tires can be dangerous. Forces generated by excessive wheel speeds may cause damage, or even failure, of the axle and tires. A tire could explode and injure someone. Do not spin your vehicle's wheels faster than 30 mph (48 km/h) or for longer than 30 seconds continuously without stopping when you are stuck and do not let anyone near a spinning wheel, no matter what the speed.

#### CAUTION!

 Racing the engine or spinning the wheels may lead to transmission overheating and failure. Allow the engine to idle with the transmission in NEUTRAL for at least one minute after every five rocking-motion cycles. This will minimize overheating and reduce the risk of transmission failure during prolonged efforts to free a stuck yehicle.

(Continued)

## **CAUTION!** (Continued)

- When "rocking" a stuck vehicle by shifting between DRIVE and REVERSE, do not spin the wheels faster than 15 mph (24 km/h), or drivetrain damage may result.
- Revving the engine or spinning the wheels too fast may lead to transmission overheating and failure. It can also damage the tires. Do not spin the wheels above 30 mph (48 km/h) while in gear (no transmission shifting occurring).

# TOWING A DISABLED VEHICLE

This section describes procedures for towing a disabled vehicle using a commercial towing service.

If the transmission and drivetrain are operable. disabled vehicles may also be towed as described on ⇒ page 230.

#### NOTE:

Vehicles equipped with the Active-Level Four Corner Air Suspension System must be placed in Transport mode, before tying them down (from the body) on a trailer or flatbed truck page 165. If the vehicle cannot be placed in Transport mode (for example, engine will not run), tie-downs must be fastened to the axles (not to the body). Failure to follow these instructions may cause fault codes to be set and/or cause loss of proper tie-down tension.

Towing Condition	Wheels OFF The Ground	2WD Models	4WD Models
Flat Tow	NONE	If transmission is operable:  Transmission in NEUTRAL  30 mph (48 km/h) max speed  30 miles (48 km) max distance	Detailed instruction on □ page 230  • Automatic Transmission in PARK  • Transfer Case in NEUTRAL (N)  • Tow in forward direction
Wheel Lift Or		- So miles (40 km) max distance	NOT ALLOWED
Dolly Tow	Rear	OK	NOT ALLOWED
Flatbed	ALL	BEST METHOD	BEST METHOD

Proper towing or lifting equipment is required to prevent damage to your vehicle. Use only tow bars and other equipment designed for this purpose, following equipment FCA's instructions. Use of safety chains is mandatory. Attach a tow bar or other towing device to main structural members of the vehicle, not to fascia/bumpers or associated brackets. State and local laws regarding vehicles under tow must be observed.

If you must use the accessories (wipers, defrosters, etc.) while being towed, the ignition must be in the ON/RUN mode, not the ACC mode.

If the key fob is unavailable or the vehicle's battery is discharged, find Instructions on shifting the transmission out of PARK page 390.

## CAUTION!

- Do not use sling type equipment when towing. Vehicle damage may occur.
- When securing the vehicle to a flat bed truck, do not attach to front or rear suspension components. Damage to your vehicle may result from improper towing.

## **TWO-WHEEL DRIVE MODELS**

FCA recommends towing your vehicle with all four wheels **OFF** the ground using a flatbed.

If flatbed equipment is not available, and the transmission is operable, the vehicle may be towed (with rear wheels on the ground) under the following conditions:

- The transmission must be in NEUTRAL (N).
  Instructions on shifting the transmission to
  NEUTRAL (N) when the engine is off

  page 390.
- The towing speed must not exceed 30 mph (48 km/h).
- The towing distance must not exceed 30 miles (48 km).

If the transmission is not operable, or the vehicle must be towed faster than 30 mph (48 km/h) and farther than 30 miles (48 km), tow with the rear wheels **OFF** the ground. Acceptable methods to tow the vehicle on a flatbed are as follows:

 The front wheels raised and the rear wheels on a towing dolly  Using a suitable steering wheel stabilizer to hold the front wheels in the straight position with the rear wheels raised when and the front wheels **ON** the ground.

## **CAUTION!**

Towing this vehicle in violation of the above requirements can cause severe transmission damage. Damage from improper towing is not covered under the New Vehicle Limited Warranty.

# **FOUR-WHEEL DRIVE MODELS**

FCA recommends towing with all wheels **OFF** the ground. Acceptable methods are to tow the vehicle on a flatbed or with one end of vehicle raised and the opposite end on a towing dolly.

#### CAUTION!

 Front or rear wheel lifts must not be used (if the remaining wheels are on the ground).
 Internal damage to the transmission or transfer case will occur if a front or rear wheel lift is used when towing.

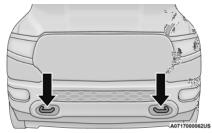
(Continued)

## **CAUTION!** (Continued)

• Towing this vehicle in violation of the above requirements can cause severe transmission and/or transfer case damage. Damage from improper towing is not covered under the New Vehicle Limited Warranty.

# **EMERGENCY TOW HOOKS — IF** EOUIPPED

Your vehicle may be equipped with emergency tow hooks.



**Emergency Tow Hooks** 

#### NOTE:

For off-road recovery, it is recommended to use both of the front tow hooks to minimize the risk of damage to the vehicle.

### WARNING!

- Do not use a chain for freeing a stuck vehicle. Chains may break, causing serious iniury or death.
- Stand clear of vehicles when pulling with tow hooks. Tow straps may become disengaged, causing serious injury.

#### CAUTION!

Tow hooks are for emergency use only, to rescue a vehicle stranded off road. Do not use tow hooks for tow truck hookup or highway towing. You could damage your vehicle.

# **ENHANCED ACCIDENT RESPONSE SYSTEM** (EARS)

This vehicle is equipped with an Enhanced Accident Response System.

This feature is a communication network that takes effect in the event of an impact ⇒ page 353.

# **EVENT DATA RECORDER (EDR)**

This vehicle is equipped with an Event Data Recorder (EDR). The main purpose of an EDR is to record data that will assist in understanding how a vehicle's systems performed under certain crash or near crash-like situations, such as an air bag deployment or hitting a road obstacle ⇒ page 355.

# 8

# SERVICING AND MAINTENANCE

# SCHEDULED SERVICING — GASOLINE ENGINE

Your vehicle is equipped with an automatic oil change indicator system. The oil change indicator system will remind you that it is time to take your vehicle in for scheduled maintenance.

Based on engine operation conditions, the oil change indicator message will illuminate. This means that service is required for your vehicle. Operating conditions such as frequent short-trips, trailer tow, and extremely hot or cold ambient temperatures will influence when the "Oil Change Required" message is displayed. Severe operating conditions can cause the change oil message to illuminate as early as 3,500 miles (5,600 km) since last reset. Have your vehicle serviced as soon as possible, within the next 500 miles (805 km).

An authorized dealer will reset the oil change indicator message after completing the scheduled oil change. If a scheduled oil change is performed by someone other than an

authorized dealer, the message can be reset by referring to the steps described under Instrument Cluster Display ♀ page 114.

#### NOTE:

Under no circumstances should oil change intervals exceed 10,000 miles (16,000 km), 12 months or 350 hours of engine run time, whichever comes first. The 350 hours of engine run or idle time is generally only a concern for fleet customers.

#### Severe Duty All Models

#### NOTE:

Vehicles that are operated in a dusty and off-road environment, or predominately at idle or very low engine RPM are known as Severe Duty vehicles. It is recommended that you change the engine oil at 4,000 miles (6,500 km) or 350 hours of engine run time.

# Once A Month Or Before A Long Trip:

- Check engine oil level.
- Check windshield washer fluid level.

- Check tire pressure and look for unusual wear or damage. Rotate tires at the first sign of irregular wear, even if it occurs before the oil indicator system turns on.
- Check the fluid levels of the coolant reservoir, brake master cylinder, and fill as needed.
- Check function of all interior and exterior lights.

## MAINTENANCE PLAN

Refer to the Maintenance Plan for required maintenance. More frequent maintenance may be needed in severe conditions, such as dusty areas and very short trip driving. In some extreme conditions, additional maintenance not specified in the maintenance schedule may be required.

# At Every Oil Change Interval As Indicated By Oil Change Indicator System:

- Change the oil and filter.
- Rotate the tires. Rotate at the first sign of irregular wear, even if it occurs before the oil indicator system turns on.
- Inspect the battery and clean and tighten terminals as required.
- Inspect the CV/Universal joints.
- Inspect the brake pads, shoes, rotors, drums, and hoses.
- Inspect the engine cooling system protection and hoses.
- Inspect the exhaust system.
- Inspect the engine air cleaner if using in dusty or off-road conditions, replace the engine air cleaner, as necessary.
- Inspect and replace the Evaporative System Fresh Air Filter as necessary; replacement may be more frequent if vehicle is operated in extreme dusty conditions.

#### NOTE:

Using white lithium grease, lubricate the door hinge roller pivot joints twice a year to prevent premature wear.

Mileage or time passed (whichever comes first)	20,000	30,000	40,000	50,000	60,000	70,000	80,000	000'06	100,000	110,000	120,000	130,000	140,000	150,000
Or Years:	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Or Kilometers:	32,000	48,000	64,000	80,000	000'96	112,000	128,000	144,000	160,000	176,000	192,000	208,000	224,000	240,000
Additional Inspections	I .			I.	I.						I		I.	
Inspect the CV/Universal joints.	Χ	Χ	Х	Х	Х	Х	X	Х	Х	Χ	Х	Χ	Х	Х
Inspect front suspension, tie rod ends, and replace if necessary.	Х		Х		Х		Х		Х		Х		Х	
Inspect the front and rear axle surfaces. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing, change axle fluid.		Х			Х			Х			Х			Х
Inspect the brake linings, replace as necessary.	Х		Х		Х		Х		Х		Х		Х	
Inspect transfer case fluid.														Х
Additional Maintenance	1		1	1	ı	1	1	1			ı		ı	1
Replace cabin air filter.	Χ		Х		Х		Χ		Χ		Х		Х	
Replace engine air cleaner.		Х			Х			Х			Х			Х

Mileage or time passed (whichever comes first)	20,000	30,000	40,000	50,000	60,000	70,000	80,000	000'06	100,000	110,000	120,000	130,000	140,000	150,000
Or Years:	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Or Kilometers:	32,000	48,000	64,000	80,000	96,000	112,000	128,000	144,000	160,000	176,000	192,000	208,000	224,000	240,000
If equipped with Stop/Start, replace accessory drive belt with OEM grade Mopar belt.														Х
Replace spark plugs. <sup>1</sup>									Х					
Flush and replace the engine coolant at 10 years or 150,000 miles (240,000 km) whichever comes first.									Х					Х
Inspect the transfer case fluid, change for any of the following: police, taxi, fleet, or frequent trailer towing.					Х						Х			
Change the transfer case fluid.											Х			
Inspect and replace PCV valve if necessary.									Х					

<sup>1.</sup> The spark plug change interval is mileage based only; yearly intervals do not apply.

#### WARNING!

- You can be badly injured working on or around a motor vehicle. Do only service work for which you have the knowledge and the right equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.
- Failure to properly inspect and maintain your vehicle could result in a component malfunction and effect vehicle handling and performance. This could cause an accident.

# SCHEDULED SERVICING — DIESEL ENGINE

Your vehicle is equipped with an automatic oil change indicator system. The oil change indicator system will remind you that it is time to take your vehicle in for scheduled maintenance.

Based on engine operation conditions, the oil change indicator message will illuminate. This means that service is required for your vehicle. Operating conditions such as frequent short-trips, trailer tow, extremely hot or cold ambient temperatures will influence when the "Oil Change Required" message is displayed. Severe Operating Conditions will cause the change oil message to illuminate more frequently. Have your vehicle serviced as soon as possible, within the next 500 miles (805 km).

An authorized dealer will reset the oil change indicator message after completing the scheduled oil change. If a scheduled oil change is performed by someone other than an authorized dealer, the message can be reset by referring to the steps described under Instrument Cluster Display  $\Rightarrow$  page 114.

#### NOTE:

Under no circumstances should oil change intervals exceed 10,000 miles (16,000 km) or 12 months, whichever comes first.

#### Once A Month Or Before A Long Trip:

- · Check engine oil level
- Check windshield washer fluid level
- Check the tire inflation pressures and look for unusual wear or damage
- Check the fluid levels of the coolant reservoir, brake master cylinder, and power steering, and fill as needed
- Check function of all interior and exterior lights

## MAINTENANCE PLAN — DIESEL FUEL UP TO B5 BIODIESEL

Refer to the Maintenance Schedules for required maintenance.

# At Every Oil Change Interval As Indicated By Oil Change Indicator System:

- Change oil and filter.
- Completely fill the Diesel Exhaust Fluid tank.
- Drain water from fuel filter assembly.
- Rotate the tires. Rotate at the first sign of irregular wear, even if it occurs before the oil indicator system turns on.
- Inspect battery and clean and tighten terminals as required.
- Inspect the CV/Universal joints.
- Inspect brake pads, shoes, rotors, drums, hoses and park brake.
- Inspect engine cooling system protection and hoses.
- Inspect exhaust system.
- Inspect engine air cleaner if using in dusty or off-road conditions. Replace engine air cleaner, as necessary.

#### NOTE:

Using white lithium grease, lubricate the door hinge roller pivot joints twice a year to prevent premature wear.

# At Every Second Oil Change Interval As Indicated By Oil Change Indicator System:

• Change fuel filter.

Mileage or time passed (whichever comes first)		20,000	30,000	40,000	20,000	000'09	70,000	80,000	000'06	100,000	110,000	120,000	130,000	140,000	150,000
Or Years:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Or Kilometers:		32,000	48,000	64,000	80,000	000'96	112,000	128,000	144,000	160,000	176,000	192,000	208,000	224,000	240,000
Additional Inspections				l .		l .	l .				l .				
Completely fill the Diesel Exhaust Fluid tank.	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Х	Х	Χ	Χ	Χ	Χ	Χ	Χ
Inspect the CV/Universal joints.	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Х	Х	Χ	Χ	Χ	Χ	Χ
Inspect front suspension, tie rod ends, and replace if necessary.		Х		Х		Х		Х		Х		Х		Х	
Inspect the front and rear axle fluid. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid.			X			х			х			Х			х
Inspect the brake linings, parking brake function.		Χ		Х		Х		Х		Х		Х		Х	
Additional Maintenance	1			Į.	1	Į.	Į.	Į.	1	1	1	1			
Replace cabin air filter		Χ		Χ		Х		Χ		Χ		Χ		Х	
Drain water from fuel filter assembly.	Χ	Χ	Χ	Х	Χ	Х	Χ	Х	Х	Х	Χ	Χ	Χ	Χ	Χ
Replace fuel filter and drain water from the fuel filter assembly. $^{1}$	Fuel filter replacement intervals should be every second oil change and must not exceed 20,000 miles (32,000 km) if using diesel fuel up to B5.														

Mileage or time passed (whichever comes first)	10,000	20,000	30,000	40,000	50,000	000'09	70,000	80,000	000'06	100,000	110,000	120,000	130,000	140,000	150,000
Or Years:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Or Kilometers:	16,000	32,000	48,000	64,000	80,000	000'96	112,000	128,000	144,000	160,000	176,000	192,000	208,000	224,000	240,000
Replace engine air cleaner.			Χ			Χ			Χ			Χ			Х
Flush and replace the engine coolant at 10 years or 150,000 miles (240,000 km) whichever comes first.										Х					Х
Replace accessory drive belt(s).										Χ					
Inspect the transfer case fluid, change for any of the following: police, taxi, fleet, or frequent trailer towing.						Х						Х			
Change transfer case fluid.															Χ

<sup>1.</sup> Under normal conditions the diesel fuel filter should be replaced every 20,000 miles (32,000 km) (every other oil change). If the vehicle is being used in severe operating conditions, or In certain geographical areas of the country (Pennsylvania, New York, Ohio, Maryland, West Virginia, Arkansas, Oklahoma, Kansas, Iowa, Missouri and Nebraska) due to fuel cleanliness issues, it's recommended to replace the fuel filter every 10,000 miles (16,000 km).

#### WARNING!

- You can be badly injured working on or around a motor vehicle. Do only service work for which you have the knowledge and the right equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.
- Failure to properly inspect and maintain your vehicle could result in a component malfunction and effect vehicle handling and performance. This could cause an accident.

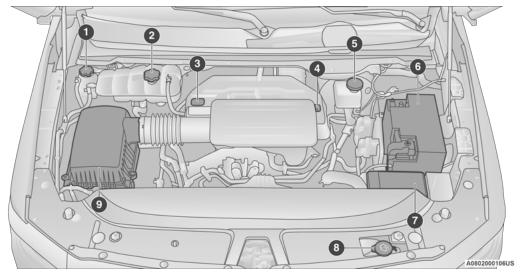
# ADDITIONAL MAINTENANCE — B6 TO B20 BIODIESEL

#### NOTE:

- Under no circumstances should oil change intervals exceed 8,000 miles (12,875 km) or six months, whichever comes first when using biodiesel blends greater than 5% (B5).
- The owner is required to monitor mileage for B6-B20 biodiesel, the automatic oil change indicator system does not reflect the use of biofuels.
- Fuel filter change interval is maintained at every second oil change. This is especially important with biodiesel usage.

# **ENGINE COMPARTMENT**

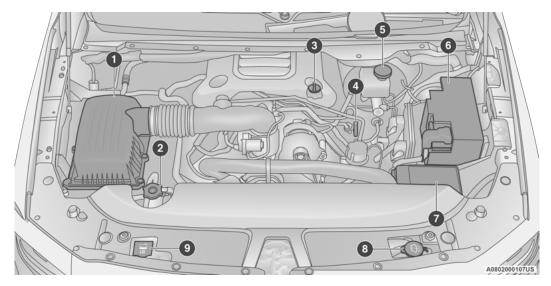
# 3.6L ENGINE WITH STOP/START



- 1 Motor Generator Unit Coolant Reservoir Pressure Cap
- 2 Engine Coolant Reservoir Pressure Cap
- 3 Engine Oil Dipstick
- 4 Engine Oil Fill
- 5 Brake Fluid Reservoir

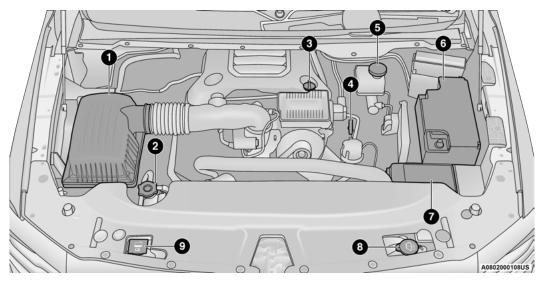
- 6 Battery
- 7 Power Distribution Center (Fuses)
- 8 Washer Fluid Reservoir Cap
- 9 Engine Air Cleaner Filter

# **5.7L ENGINE WITHOUT STOP/START**



- 1- Engine Air Cleaner Filter
- 2- Engine Coolant Pressure Cap
- 3 Engine Oil Fill
- 4 Engine Oil Dipstick
- 5 Brake Fluid Reservoir Cap

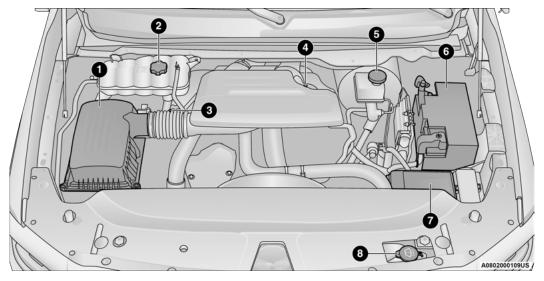
- 6 Battery
- 7 Power Distribution Center (Fuses)
- 8 Washer Fluid Reservoir Cap
- 9 Engine Coolant Reservoir Cap



- 1- Engine Air Cleaner Filter
- 2- Engine Coolant Pressure Cap
- 3 Engine Oil Fill
- 4 Engine Oil Dipstick
- 5 Brake Fluid Reservoir Cap

- 6 Battery
- 7 Power Distribution Center (Fuses)
- 8 Washer Fluid Reservoir Cap
- 9 Engine Coolant Reservoir Cap

# 3.0L DIESEL ENGINE



- 1- Engine Air Cleaner Filter
- 2- Engine Coolant Reservoir Pressure Cap
- 3 Engine Oil Dipstick
- 4 Engine Oil Fill

- 5- Brake Fluid Reservoir Cap
- 6 Battery
- 7 Power Distribution Center (Fuses)
- 8 Washer Fluid Reservoir Cap

## CHECKING OIL LEVEL

To ensure proper engine lubrication, the engine oil must be maintained at the correct level. Check the oil level at regular intervals, such as every fuel stop. The best time to check the engine oil level is about five minutes after a fully warmed up engine is shut off.

Checking the oil while the vehicle is on level ground will improve the accuracy of the oil level readings.

There are four possible dipstick types:

- Crosshatched zone.
- Crosshatched zone marked SAFE.
- Crosshatched zone marked with MIN at the low end of the range and MAX at the high end of the range.
- Crosshatched zone marked with dimples at the MIN and the MAX ends of the range.

#### NOTE:

Always maintain the oil level within the crosshatch markings on the dipstick.

Adding 1 quart (1.0 liter) of oil when the reading is at the low end of the dipstick range will raise the oil level to the high end of the range marking.

#### CAUTION!

Overfilling or underfilling the crankcase will cause oil aeration or loss of oil pressure. This could damage your engine.

#### NOTE:

It is possible for your oil level to be slightly higher than a previous check. This would be due to diesel fuel that may temporarily be in the crankcase due to operation of the diesel particulate filter regeneration strategy (if equipped). This fuel will evaporate out under normal operation.

# **ADDING WASHER FLUID**

The fluid reservoir is located under the hood and should be checked for fluid level at regular intervals. Fill the reservoir with windshield washer solvent only (not radiator antifreeze). When refilling the washer fluid reservoir, take some washer fluid and apply it to a cloth or towel and wipe the wiper blades clean. This will help blade performance.

To prevent freeze-up of your windshield washer system in cold weather, select a solution or mixture that meets or exceeds the temperature range of your climate. This rating information can be found on most washer fluid containers.

#### WARNING!

Commercially available windshield washer solvents are flammable. They could ignite and burn you. Care must be exercised when filling or working around the washer solution.

After the engine has warmed up, operate the defroster for a few minutes to reduce the possibility of smearing or freezing the fluid on the cold windshield. Windshield washer solution used with water as directed on the container. aids cleaning action, reduces the freezing point to avoid line clogging, and is not harmful to paint or trim.

#### R

# MAINTENANCE-FREE BATTERY

Your vehicle is equipped with a maintenance-free battery. You will never have to add water, and periodic maintenance is not required.

## WARNING!

- Battery fluid is a corrosive acid solution and can burn or even blind you. Do not allow battery fluid to contact your eyes, skin, or clothing. Do not lean over a battery when attaching clamps. If acid splashes in eyes or on skin, flush the area immediately with large amounts of water ♀ page 386.
- Battery gas is flammable and explosive.
   Keep flame or sparks away from the battery. Do not use a booster battery or any other booster source with an output greater than 12 Volts. Do not allow cable clamps to touch each other.
- Battery posts, terminals, and related accessories contain lead and lead compounds.
   Wash hands after handling.

#### CAUTION!

- It is essential when replacing the cables on the battery that the positive cable is attached to the positive post and the negative cable is attached to the negative post. Battery posts are marked positive (+) and negative (-) and are identified on the battery case. Cable clamps should be tight on the terminal posts and free of corrosion.
- If a "fast charger" is used while the battery is in the vehicle, disconnect both vehicle battery cables before connecting the charger to the battery. Do not use a "fast charger" to provide starting voltage.

# PRESSURE WASHING

Cleaning the engine compartment with a high pressure washer is not recommended.

#### CAUTION!

Precautions have been taken to safeguard all parts and connections however, the pressures generated by these machines is such that complete protection against water ingress cannot be guaranteed.

# **VEHICLE MAINTENANCE**

An authorized dealer has the qualified service personnel, special tools, and equipment to perform all service operations in an expert manner. Service Manuals are available which include detailed service information for your vehicle. Refer to these Service Manuals before attempting any procedure yourself.

#### NOTE:

Intentional tampering with emissions control systems may void your warranty and could result in civil penalties being assessed against you.

#### WARNING!

You can be badly injured working on or around a motor vehicle. Only do service work for which you have the knowledge and the proper equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.

# FIGURE OIL — GAS FIGURE

# Engine Oil Selection — Gasoline Engine

For best performance and maximum protection under all types of operating conditions, FCA only recommends engine oils that are API Certified and meet the requirements of FCA Material Standard MS-6395.

#### NOTE:

Hemi engines (5.7L) at times can tick right after startup and then quiet down after approximately 30 seconds. This is normal and will not harm the engine. This characteristic can be caused by short drive cycles. For example, if the vehicle is started then shut off after driving a short distance. Upon restarting, you may experience a ticking sound. Other causes could be if the vehicle is unused for an extended period of time, incorrect oil, extended oil changes or extended idling. If the engine continues to tick or if the Malfunction Indicator Light (MIL) comes on, see the nearest authorized dealer.

# Engine Oil Selection — Diesel Engine

For best performance and maximum protection under all types of operating conditions, FCA recommends engine oils that meet the requirements of FCA Material Standard

MS-12991, and that are API SN certified and meet the requirements of FCA LLC.

# American Petroleum Institute (API) Engine Oil Identification Symbol



This symbol means that the oil has been certified by the American Petroleum Institute (API). The manufacturer only recommends API Certified engine oils.

This symbol certifies OW-20, 5W-20, OW-30, 5W-30 and 10W-30 engine oils.

#### CAUTION!

Do not use chemical flushes in your engine oil as the chemicals can damage your engine. Such damage is not covered by the New Vehicle Limited Warranty.

# Synthetic Engine Oils

You may use synthetic engine oils provided the recommended oil quality requirements are met, and the recommended maintenance intervals for oil and filter changes are followed.

Synthetic engine oils which do not have both the engine oil certification mark and the correct SAE viscosity grade number should not be used.

# Materials Added To Engine Oil

FCA strongly recommends against the addition of any additives (other than leak detection dyes) to the engine oil. Engine oil is an engineered product and its performance may be impaired by supplemental additives.

# Disposing Of Used Engine Oil And Oil Filters

Care should be taken in disposing of used engine oil and oil filters from your vehicle. Used oil and oil filters, indiscriminately discarded, can present a problem to the environment. Contact an authorized dealer, service station or governmental agency for advice on how and where used oil and oil filters can be safely discarded in your area.

### **ENGINE OIL FILTER**

The engine oil filter should be replaced with a new filter at every engine oil change.

#### **Engine Oil Filter Selection**

A full-flow type disposable oil filter should be used for replacement. The quality of replacement filters varies considerably. Only high quality Mopar certified filters should be used.

### **ENGINE AIR CLEANER FILTER**

For the proper maintenance intervals 

page 395.

#### NOTE:

Be sure to follow the "Severe Duty Conditions" maintenance interval if applicable.

#### WARNING!

The air induction system (air cleaner, hoses, etc.) can provide a measure of protection in the case of engine backfire. Do not remove the air induction system (air cleaner, hoses, etc.) unless such removal is necessary for repair or maintenance. Make sure that no one is near the engine compartment before starting the vehicle with the air induction system (air cleaner, hoses, etc.) removed. Failure to do so can result in serious personal injury.

## **Engine Air Cleaner Filter Selection**

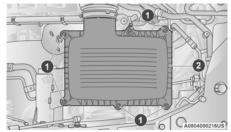
The quality of replacement filters varies considerably. Only high quality Mopar certified filters should be used.

# Engine Air Cleaner Filter Inspection And Replacement

Inspect engine air cleaner filter for dirt and or debris, if you find evidence of either dirt or debris you should change your engine air cleaner filter.

# **Engine Air Cleaner Filter Removal**

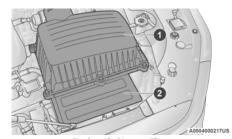
 With suitable tool fully loosen (six) fasteners on the engine air cleaner filter cover.



**Engine Air Cleaner Filter** 

- 1 Fasteners
- 2 Engine Air Cleaner Filter Cover

- 2. Lift the engine air cleaner filter cover to access the engine air cleaner filter.
- 3. Remove the engine air cleaner filter from the housing assembly.



**Engine Air Cleaner Filter** 

- 1 Engine Air Cleaner Filter Cover
- 2 Engine Air Cleaner Filter

#### **Engine Air Cleaner Filter Installation**

#### NOTE:

Inspect and clean the housing if dirt or debris is present before replacing the engine air cleaner filter.

- Install the engine air cleaner filter into the housing assembly with the engine air cleaner filter inspection surface facing downward.
- Install the engine air cleaner filter cover onto the housing assembly.
- Tighten the fasteners (six) on the engine air cleaner filter assembly.

# DRAINING FUEL/WATER SEPARATOR FILTER — DIESEL ENGINE

The fuel/water separator filter housing is located inside the frame rail, behind the left front wheel. The best access to this water drain valve is from under the vehicle.

#### CAUTION!

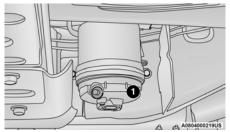
 Do not drain the fuel/water separator filter when the engine is running.

(Continued)

#### **CAUTION!** (Continued)

 Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.

If water is detected in the water separator while the engine is running, or while the ignition switch is in the ON/RUN position, the "Water In Fuel Indicator Light" will illuminate and an audible chime will be heard. At this point, you should stop the engine and drain the water from the filter housing.



**Fuel Filter Assembly** 

1 - Water In Fuel Drain Valve

#### CAUTION!

If the "Water In Fuel Indicator Light" remains on, DO NOT START the engine before you drain water from the fuel filter to avoid engine damage.

If the "Water In Fuel Indicator Light" comes on and a single chime is heard while you are driving, or with the ignition in the ON position, there may be a problem with your water separator wiring or sensor. See an authorized dealer for service.

Upon proper draining of the water from the fuel filter, the "Water In Fuel Indicator Light" will remain illuminated for approximately 10 seconds. If the water was drained while the engine was running, the "Water In Fuel Indicator Light" may remain on for approximately three minutes.

#### NOTE:

Care should be taken in disposing of used fluids from your vehicle. Used fluids, indiscriminately discarded, can present a problem to the environment. Contact an authorized dealer, service station, or government agency for advice on recycling programs and for where used fluids and filters can be properly disposed of in your area.

Drain the fuel/water separator filter when the "Water In Fuel Indicator Light" is ON. Within 10 minutes of vehicle shutdown, turn the filter drain valve (located on the bottom of the filter housing) counterclockwise to drain fuel/water, then turn the ignition switch to the ON position, and allow any accumulated water to drain. Leave the drain valve open until all water and contaminants have been removed. When clean fuel is visible, close the drain valve by turning it clockwise, and turn the ignition switch to OFF.

# UNDERBODY MOUNTED FUEL FILTER REPLACEMENT — DIESEL ENGINE

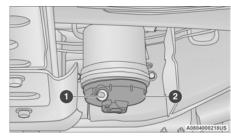
#### NOTE:

Using a fuel filter that does not meet FCA's filtration and water separating requirements can severely impact fuel system life and reliability. Under normal conditions the diesel fuel filter should be replaced every 20,000 miles (every other oil change). If the vehicle is being used in severe operating conditions, or In certain geographical areas of the country (Pennsylvania, New York, Ohio, Maryland, West Virginia, Arkansas, Oklahoma, Kansas, Iowa, Missouri

and Nebraska) due to fuel cleanliness' issues, it's recommended to replace the fuel filter every 10,000 miles.

### CAUTION!

- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.
- Do not prefill the fuel filter when installing a new fuel filter. There is a possibility debris could be introduced into the fuel filter during this action. It is best to install the filter dry and allow the in-tank lift pump to prime the fuel system.



**Fuel Filter Assembly** 

- 1 Water In Fuel Drain Valve
- 2 Fuel Filter Access

- 1. Turn engine off.
- 2. Place a drain pan under the fuel filter assembly.
- 3. Open the water drain valve, and let any accumulated water drain.
- Close the water drain valve.
- Remove bottom cover using a strap wrench.
   Rotate counterclockwise for removal.
   Remove the used o-ring and discard it.
- Remove the used filter cartridge from the housing and dispose of it according to your local regulations.
- 7. Wipe the sealing surfaces of the lid and housing clean.
- Install a new o-ring into the ring groove on the filter housing and lubricate with clean engine oil.

# PRIMING IF THE FIGURE HAS RUN OUT OF FUEL — DIESEL ENGINE

#### WARNING!

Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.

- 1. Add a substantial amount of fuel to the tank, approximately 2 to 5 gal (8 L to 19 L).
- 2. Press ignition switch twice without your foot on brake to put vehicle in ON/RUN position. This will activate the in tank fuel pump for approximately 30 seconds. Repeat this process twice.
- 3. Start the engine using the "Normal Starting" procedure ⇒ page 144.

### CAUTION!

The starter motor will engage for approximately 30 seconds at a time. Allow two minutes between cranking intervals.

#### NOTE:

The engine may run rough until the air is forced from all the fuel lines.

#### WARNING!

Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and be hazardous or explosive when mixed with diesel fuel.

#### CAUTION!

Due to lack of lubricants in alcohol or gasoline, the use of these fuels can cause damage to the fuel system.

#### NOTE:

- Use of biodiesel mixture in excess of 20% can negatively impact the fuel filter's ability to separate water from the fuel, resulting in high pressure fuel system corrosion or damage.
- In addition, commercially available fuel additives are not necessary for the proper operation of your diesel engine.
- For extreme cold conditions, "Mopar Premium Diesel Fuel Treatment" is recommended to assist with cold starting.

# INTERVENTION REGENERATION STRATEGY — MESSAGE PROCESS FLOW (DIESEL ENGINE)

This engine meets all required diesel engine emissions standards. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system's catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

Additionally, your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine ⇒ page 114.

#### WARNING!

A hot exhaust system can start a fire if you park over materials that can burn, such as grass or leaves, and those items that come into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.

Diesel Exhaust Fluid (DEF) sometimes known simply by the name of its active component, UREA—is a key component of Selective Catalytic Reduction (SCR) systems, which help diesel vehicles meet stringent emission regulations. DEF is a liquid reducing agent that reacts with engine exhaust in the presence of a catalyst to convert smog-forming nitrogen oxides (NOx) into harmless nitrogen and water vapor.

Refer to Engine Fluids And Lubricants 

⇒ page 475 for further information.

## **AIR CONDITIONER MAINTENANCE**

For best possible performance, your air conditioner should be checked and serviced by an authorized dealer at the start of each warm season. This service should include cleaning of the condenser fins and a performance test. Drive belt tension should also be checked at this time.

#### WARNING!

- Use only refrigerants and compressor lubricants approved by FCA for your air conditioning system. Some unapproved refrigerants are flammable and can explode, injuring you. Other unapproved refrigerants or lubricants can cause the system to fail, requiring costly repairs. Refer to Warranty Information Book, for further warranty information.
- The air conditioning system contains refrigerant under high pressure. To avoid risk of personal injury or damage to the system, adding refrigerant or any repair requiring lines to be disconnected should be done by an experienced technician.

#### CAUTION!

Do not use chemical flushes in your air conditioning system as the chemicals can damage your air conditioning components. Such damage is not covered by the New Vehicle Limited Warranty.

# Refrigerant Recovery And Recycling — R-1234yf

R-1234yf Air Conditioning Refrigerant is a hydrofluoroolefin (HFO) that is endorsed by the Environmental Protection Agency and is an ozone-friendly substance with a low global-warming potential. It is recommended that air conditioning service be performed by an authorized dealer using recovery and recycling equipment.

#### NOTE:

Use only FCA approved A/C system PAG compressor oil, and refrigerants.

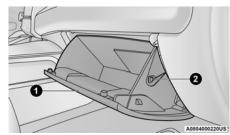
# Cabin Filter Replacement (A/C Air Filter)

#### WARNING!

Do not remove the cabin air filter while the vehicle is running, or while the ignition is in the ACC or ON/RUN mode. With the cabin air filter removed and the blower operating, the blower can contact hands and may propel dirt and debris into your eyes, resulting in personal injury.

The cabin air filter is located in the fresh air inlet behind the glove compartment. Perform the following procedure to replace the filter:

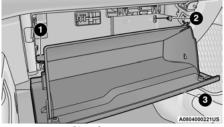
- Open the glove compartment and remove all contents.
- With the glove compartment door open, remove the glove compartment tension tether and tether clip by sliding the clip toward the face of the glove compartment door. Lift the clip out of glove compartment door and release into dash panel.



Right Side Of Glove Compartment

- 1 Glove Compartment Door
- 2 Glove Compartment Tension Tether

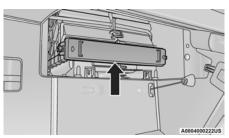
 There are glove compartment travel stops on both sides of the glove compartment door. Push inward on both sides of the glove compartment to release the glove compartment travel stops.



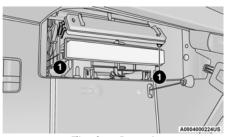
**Glove Compartment** 

- 1 Glove Compartment Travel Stop
- 2 Glove Compartment Tension Tether
- 3 Glove Compartment Door
- Disengage the glove compartment door from its hinges by opening the glove compartment past the travel stop and pulling it toward you.

5. Remove the filter cover by pushing in on the finger tabs on each end of the filter cover.



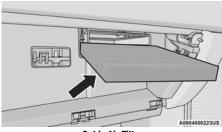
Filter Cover



Filter Cover Removal

1 - Finger Tabs

6. Remove the cabin air filter by pulling it straight out of the housing.



**Cabin Air Filter** 

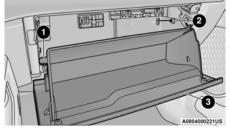
Install the cabin air filter with the arrow on the filter pointing toward the floor. When installing the filter cover, press on each end until you hear an audible click.

### CAUTION!

The cabin air filter is identified with an arrow to indicate airflow direction through the filter. Failure to properly install the filter will result in the need to replace it more often.

8. Reinstall the glove compartment on the hinges.

 Pull the tension tether outward and reinstall the glove compartment past the travel stops by pushing in on the glove compartment sides.



**Glove Compartment** 

- 1 Glove Compartment Travel Stop
- 2- Glove Compartment Tension Tether
- 3 Glove Compartment Door

### NOTE:

Ensure the glove compartment door hinges and glove compartment travel stops are fully engaged.

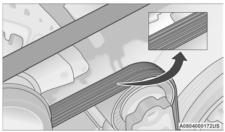
10. Reattach the glove compartment tension tether by inserting the tether clip in the glove compartment and sliding the clip away from the face of the glove compartment door.

## ACCESSORY DRIVE BELT INSPECTION

#### WARNING!

- Do not attempt to inspect an accessory drive belt with vehicle running.
- When working near the radiator cooling fan, disconnect the fan motor lead. The fan is temperature controlled and can start at any time regardless of ignition mode. You could be injured by the moving fan blades.
- You can be badly injured working on or around a motor vehicle. Only do service work for which you have the knowledge and the proper equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.

When inspecting accessory drive belts, small cracks that run across the ribbed surface of the belt from rib to rib, are considered normal. This is not a reason to replace the belt. However, cracks running along a rib (not across) are not normal. Any belt with cracks running along a rib must be replaced. Also have the belt replaced if it has excessive wear, frayed cords or severe glazing.



**Accessory Belt (Serpentine Belt)** 

Conditions that would require replacement:

- Rib chunking (one or more ribs has separated from belt body)
- Rib or belt wear
- Longitudinal belt cracking (cracks between two ribs)
- Belt slips
- "Groove jumping" (belt does not maintain correct position on pulley)
- Belt broken
- Noise (objectionable squeal, squeak, or rumble is heard or felt while drive belt is in operation)

#### NOTE:

Identify and correct problem before new belt is installed.

## NOTE:

If your vehicle is equipped with a Stop/Start, belt must be replaced with an OEM grade Mopar belt.

Some conditions can be caused by a faulty component such as a belt pulley. Belt pulleys should be carefully inspected for damage and proper alignment.

Belt replacement on some models requires the use of special tools, we recommend having your vehicle serviced at an authorized dealer.

## **BODY LUBRICATION**

Locks and all body pivot points, including such items as seat tracks, door hinge pivot points and rollers, liftgate, tailgate, decklid, sliding doors and hood hinges, should be lubricated periodically. Use a lithium-based grease, such as Mopar Spray White Lube to assure quiet, easy operation and to protect against rust and wear. Prior to the application of any lubricant, the parts concerned should be wiped clean to remove dust and grit; after lubricating excess oil and grease should be removed. Particular

attention should also be given to hood latching components to ensure proper function. When performing other underhood services, the hood latch release mechanism, and safety catch should be cleaned and lubricated.

The external lock cylinders should be lubricated twice a year, preferably in the Autumn and Spring. Apply a small amount of a high quality Iubricant, such as Mopar Lock Cylinder Lubricant directly into the lock cylinder.

### WINDSHIELD WIPER BLADES

Clean the rubber edges of the wiper blades and the windshield periodically with a sponge or soft cloth and a mild nonabrasive cleaner. This will remove accumulations of salt or road film.

Operation of the wipers on dry glass for long periods may cause deterioration of the wiper blades. Always use washer fluid when using the wipers to remove salt or dirt from a dry windshield.

Avoid using the wiper blades to remove frost or ice from the windshield. Keep the blade rubber out of contact with petroleum products such as engine oil, gasoline, etc.

#### 0

#### NOTE:

Life expectancy of wiper blades varies depending on geographical area and frequency of use. If chattering, marks, water lines or wet spots are present, clean the wiper blades or replace as necessary.

The wiper blades and wiper arms should be inspected periodically, not just when wiper performance problems are experienced. This inspection should include the following points:

- Wear or uneven edges
- Foreign material
- · Hardening or cracking
- Deformation or fatigue

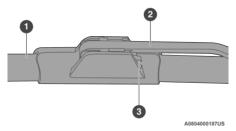
If a wiper blade or wiper arm is damaged, replace the affected wiper arm or blade with a new unit. Do not attempt to repair a wiper arm or blade that is damaged.

## Wiper Blade Removal/Installation

#### CAUTION!

Do not allow the wiper arm to spring back against the glass without the wiper blade in place or the glass may be damaged.

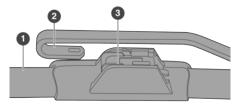
 Lift the wiper arm to raise the wiper blade off of the glass, until the wiper arm is in the full up position.



## **Wiper Blade With Release Tab In Locked Position**

- 1 Wiper Blade
- 2 Wiper Arm
- 3 Release Tab

 To disengage the wiper blade from the wiper arm, press the release tab on the wiper blade and while holding the wiper arm with one hand, slide the wiper blade down towards the base of the wiper arm.



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#### Wiper Blade With Release Tab In Unlocked Position

- 1 Wiper Blade
- 2 Wiper Arm J Hook
- 3 J Hook Retainer
- 3. With the wiper blade disengaged, remove the wiper blade from the wiper arm.
- 4. Gently lower the wiper arm onto the glass.

## **Installing The Front Wipers**

- 1. Lift the wiper arm off of the glass, until the wiper arm is in the full up position.
- 2. Position the wiper blade near the hook on the tip of the wiper arm.
- Slide the wiper blade up into the hook on the wiper arm, latch engagement will be accompanied by an audible click.
- 4. Gently lower the wiper blade onto the glass.

## **EXHAUST SYSTEM**

The best protection against carbon monoxide entry into the vehicle body is a properly maintained engine exhaust system.

If you notice a change in the sound of the exhaust system; or if the exhaust fumes can be detected inside the vehicle; or when the underside or rear of the vehicle is damaged; have an authorized technician inspect the complete exhaust system and adjacent body areas for broken, damaged, deteriorated, or mispositioned parts. Open seams or loose connections could permit exhaust fumes to seep into the passenger compartment. In addition, have the exhaust system inspected

each time the vehicle is raised for lubrication or oil change. Replace as required.

#### WARNING!

- Exhaust gases can injure or kill. They
  contain carbon monoxide (CO), which is
  colorless and odorless. Breathing it can
  make you unconscious and can eventually
  poison you. To avoid breathing CO see
   page 369.
- A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.

### CAUTION!

 The catalytic converter requires the use of unleaded fuel only. Leaded gasoline will destroy the effectiveness of the catalyst as an emissions control device and may seriously reduce engine performance and cause serious damage to the engine.

(Continued)

## **CAUTION!** (Continued)

 Damage to the catalytic converter can result if your vehicle is not kept in proper operating condition. In the event of engine malfunction, particularly involving engine misfire or other apparent loss of performance, have your vehicle serviced promptly. Continued operation of your vehicle with a severe malfunction could cause the converter to overheat, resulting in possible damage to the converter and vehicle.

Under normal operating conditions, the catalytic converter will not require maintenance. However, it is important to keep the engine properly tuned to assure proper catalyst operation and prevent possible catalyst damage.

#### NOTE:

Intentional tampering with emissions control systems can result in civil penalties being assessed against you.

In unusual situations involving grossly malfunctioning engine operation, a scorching odor may suggest severe and abnormal catalyst overheating. If this occurs, stop the vehicle, turn off the engine and allow it to cool. Service, including a tune-up to manufacturer's specifications, should be obtained immediately.

To minimize the possibility of catalytic converter damage:

- Do not interrupt the ignition when the transmission is in gear and the vehicle is in motion.
- Do not try to start the vehicle by pushing or towing the vehicle.
- Do not idle the engine with any ignition components disconnected or removed, such as when diagnostic testing, or for prolonged periods during very rough idle or malfunctioning operating conditions.

## COOLING SYSTEM

### WARNING!

- You or others can be badly burned by hot engine coolant (antifreeze) or steam from your radiator. If you see or hear steam coming from under the hood, do not open the hood until the radiator has had time to cool. Never open a cooling system pressure cap when the radiator or coolant bottle is hot.
- Keep hands, tools, clothing, and jewelry away from the radiator cooling fan when the hood is raised. The fan starts automatically and may start at any time, whether the engine is running or not.
- When working near the radiator cooling fan, disconnect the fan motor lead or turn the ignition to the OFF mode. The fan is temperature controlled and can start at any time the ignition is in the ON mode.

## **Engine Coolant Checks**

Check the engine coolant (antifreeze) protection every 12 months (before the onset of freezing weather, where applicable). If the engine coolant is dirty or rusty in appearance, the system should be drained, flushed and refilled with fresh coolant. Check the front of the A/C condenser (if equipped) or radiator for any accumulation of bugs, leaves, etc. If dirty, clean by gently spraying water from a garden hose vertically down the face of the A/C condenser (if equipped) or the back of the radiator core.

Check the engine cooling system hoses for brittle rubber, cracking, tears, cuts and tightness of the connection at the coolant recovery bottle and radiator. Inspect the entire system for leaks.

DO NOT REMOVE THE COOLANT PRESSURE CAP WHEN THE COOLING SYSTEM IS HOT.

## Cooling System — Drain, Flush And Refill

#### NOTE:

Some vehicles require special tools to add coolant properly. Failure to fill these systems properly could lead to severe internal engine damage. If any coolant is needed to be added to the system please contact an authorized dealer.

If the engine coolant (antifreeze) is dirty or contains visible sediment, have an authorized dealer clean and flush with OAT coolant (conforming to MS.90032).

For the proper maintenance intervals ⇒ page 395.

#### Selection Of Coolant

For further information ⇒ page 475.

#### NOTE:

 Mixing of engine coolant (antifreeze) other than specified Organic Additive Technology (OAT) engine coolant, may result in engine damage and may decrease corrosion protection. OAT engine coolant is different and should not be mixed with Hybrid Organic Additive Technology (HOAT) engine coolant or any "globally compatible" coolant. If a

non-OAT engine coolant is introduced into the cooling system in an emergency, the cooling system will need to be drained, flushed, and refilled with fresh OAT coolant (conforming to MS.90032), by an authorized dealer as soon as possible.

- Do not use water alone or alcohol-based engine coolant products. Do not use additional rust inhibitors or anti-rust products, as they may not be compatible with the radiator engine coolant and may plug the radiator.
- This vehicle has not been designed for use with propylene glycol-based engine coolant. Use of propylene glycol-based engine coolant is not recommended.
- Some vehicles require special tools to add coolant properly. Failure to fill these systems properly could lead to severe internal engine damage. If any coolant is needed to be added to the system please contact an authorized dealer.

# **Adding Coolant**

Your vehicle has been built with an improved engine coolant (OAT coolant conforming to MS.90032) that allows extended maintenance intervals. This engine coolant (antifreeze) can

be used up to 10 years or 150,000 miles (240,000 km) before replacement. To prevent reducing this extended maintenance period, it is important that you use the same engine coolant (OAT coolant conforming to MS.90032) throughout the life of your vehicle.

Please review these recommendations for using Organic Additive Technology (OAT) engine coolant that meets the requirements of FCA Material Standard MS.90032. When adding engine coolant:

- We recommend using Mopar® Antifreeze/ Coolant 10 Year/150.000 Mile (240.000 km) Formula OAT that meets the requirements of FCA Material Standard MS.90032.
- Mix a minimum solution of 50% OAT engine coolant that meets the requirements of FCA Material Standard MS.90032 and distilled water. Use higher concentrations (not to exceed 70%) if temperatures below -34°F (-37°C) are anticipated. Please contact an authorized dealer for assistance.
- Use only high purity water such as distilled or deionized water when mixing the water/ engine coolant solution. The use of lower quality water will reduce the amount of corrosion protection in the engine cooling system.

#### NOTE:

- It is the owner's responsibility to maintain the proper level of protection against freezing according to the temperatures occurring in the area where the vehicle is operated.
- Some vehicles require special tools to add coolant properly. Failure to fill these systems properly could lead to severe internal engine damage. If any coolant is needed to be added to the system, please contact an authorized dealer.
- Mixing engine coolant types is not recommended and can result in cooling system damage. If HOAT and OAT coolant are mixed in an emergency, have an authorized dealer drain, flush, and refill with OAT coolant (conforming to MS.90032) as soon as possible.

## Cooling System Pressure Cap

The cap must be fully tightened to prevent loss of engine coolant (antifreeze), and to ensure that engine coolant will return to the radiator from the coolant expansion bottle/recovery tank (if equipped).

The cap should be inspected and cleaned if there is any accumulation of foreign material on the sealing surfaces.

## WARNING!

- Do not open hot engine cooling system.
   Never add engine coolant (antifreeze) when the engine is overheated. Do not loosen or remove the cap to cool an overheated engine. Heat causes pressure to build up in the cooling system. To prevent scalding or injury, do not remove the pressure cap while the system is hot or under pressure.
- Do not use a pressure cap other than the one specified for your vehicle. Personal injury or engine damage may result.

## Disposal Of Used Coolant

Used ethylene glycol-based coolant (antifreeze) is a regulated substance requiring proper disposal. Check with your local authorities to determine the disposal rules for your community. To prevent ingestion by animals or children, do not store ethylene glycol-based coolant in open containers or allow it to remain in puddles on the ground, clean up any ground spills immediately. If ingested, seek emergency assistance immediately.

## Checking Coolant Level — 3.6L Engine

The level of the coolant in the pressurized coolant bottle should be between the "MIN" and "MAX" range on the bottle when the engine is cold.

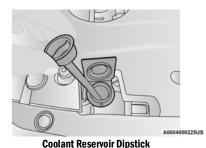
The radiator normally remains completely full, so there is no need to remove the cap unless checking for coolant freeze point or replacing engine coolant (antifreeze). Advise your service attendant of this. As long as the engine operating temperature is satisfactory, the coolant bottle need only be checked once a month. When additional engine coolant is needed to maintain the proper level, it should be added to the coolant bottle. Do not overfill.

## Checking Coolant Level — 5.7L Engines

With the engine off and cold, the level of the engine coolant should be between the ADD and SAFE range on the dipstick.

To check the coolant level:

- 1. Open the coolant reservoir.
- 2. Lift and remove the plastic dipstick from the reservoir neck.



3. Check the coolant level on the dipstick.

The radiator normally remains completely full, so there is no need to remove the radiator cap unless checking for engine coolant (antifreeze) freeze point or replacing engine coolant. Advise your service attendant of this. As long as the engine operating temperature is satisfactory, the coolant bottle need only be checked once a month.

When additional engine coolant is needed to maintain the proper level, it should be added to the coolant bottle. Do not overfill.

## **Cooling System Notes**

#### NOTE:

When the vehicle is stopped after a few miles/ kilometers of operation, you may observe vapor coming from the front of the engine compartment. This is normally a result of moisture from rain, snow, or high humidity accumulating on the radiator and being vaporized when the thermostat opens, allowing hot engine coolant (antifreeze) to enter the radiator.

If an examination of your engine compartment shows no evidence of radiator or hose leaks. the vehicle may be safely driven. The vapor will soon dissipate.

- Do not overfill the coolant expansion bottle.
- Check the coolant freeze point in the radiator and in the coolant expansion bottle. If engine coolant needs to be added, the contents of the coolant expansion bottle must also be protected against freezing.
- If frequent engine coolant additions are required, the cooling system should be pressure tested for leaks.

- Maintain engine coolant concentration at a minimum of 50% OAT coolant (conforming to MS.90032) and distilled water for proper corrosion protection of your engine which contains aluminum components.
- Make sure that the coolant expansion bottle overflow hoses are not kinked or obstructed.
- Keep the front of the radiator clean. If your vehicle is equipped with air conditioning, keep the front of the condenser clean.
- Do not change the thermostat for Summer or Winter operation. If replacement is ever necessary, install ONLY the correct type thermostat. Other designs may result in unsatisfactory engine cooling performance, poor gas mileage, and increased emissions.

# CHARGE AIR COOLER — INTER-COOLER (DIESEL ENGINE)

The charge air cooler is positioned in front of the radiator and the air conditioner condenser. Air enters the engine through the air cleaner and passes through the turbocharger, where it is pressurized. This pressurized air rapidly reaches high temperature. The air is then directed through a hose to the charge air cooler

and through another hose to the intake manifold of the engine. This cooling process enables more efficient burning of fuel resulting in fewer emissions.

To guarantee optimum performance of the system, keep the surfaces of the charge air cooler, condenser and radiator clean and free of debris. Periodically check the hoses leading to and from the charge air cooler for cracks or loose clamps resulting in loss of pressure and reduced engine performance.

## **BRAKE SYSTEM**

In order to ensure brake system performance, all brake system components should be inspected periodically ♀ page 395.

## WARNING!

Riding the brakes can lead to brake failure and possibly a collision. Driving with your foot resting or riding on the brake pedal can result in abnormally high brake temperatures, excessive lining wear, and possible brake damage. You would not have your full braking capacity in an emergency.

## Fluid Level Check — Brake Master Cylinder

The fluid level of the brake master cylinder should be checked whenever the vehicle is serviced, or immediately if the brake system warning light is on. If necessary, add fluid to bring level within the designated marks on the side of the reservoir of the brake master cylinder. Be sure to clean the top of the master cylinder area before removing cap. With disc brakes, fluid level can be expected to fall as the brake pads wear. Brake fluid level should be checked when pads are replaced. If the brake fluid is abnormally low, check the system for leaks ♀ page 478.

## WARNING!

 Use only manufacturer's recommended brake fluid page 478. Using the wrong type of brake fluid can severely damage your brake system and/or impair its performance. The proper type of brake fluid for your vehicle is also identified on the original factory installed hydraulic master cylinder reservoir.

(Continued)

## WARNING! (Continued)

- To avoid contamination from foreign matter or moisture, use only new brake fluid or fluid that has been in a tightly closed container. Keep the master cylinder reservoir cap secured at all times. Brake fluid in a open container absorbs moisture from the air resulting in a lower boiling point. This may cause it to boil unexpectedly during hard or prolonged braking, resulting in sudden brake failure. This could result in a collision.
- Overfilling the brake fluid reservoir can result in spilling brake fluid on hot engine parts, causing the brake fluid to catch fire. Brake fluid can also damage painted and vinyl surfaces, care should be taken to avoid its contact with these surfaces.
- Do not allow petroleum based fluid to contaminate the brake fluid. Brake seal components could be damaged, causing partial or complete brake failure. This could result in a collision.

## **AUTOMATIC TRANSMISSION**

## Special Additives

FCA strongly recommends against using any special additives in the transmission. Automatic Transmission Fluid (ATF) is an engineered product and its performance may be impaired by supplemental additives. Therefore, do not add any fluid additives to the transmission. Avoid using transmission sealers as they may adversely affect seals.

#### CAUTION!

Do not use chemical flushes in your transmission as the chemicals can damage your transmission components. Such damage is not covered by the New Vehicle Limited Warranty.

#### Fluid Level Check

The fluid level is preset at the factory and does not require adjustment under normal operating conditions. Routine fluid level checks are not required, therefore the transmission has no dipstick. An authorized dealer can check your transmission fluid level using special service tools.

If you notice fluid leakage or transmission malfunction, visit an authorized dealer immediately to have the transmission fluid level checked. Operating the vehicle with an improper fluid level can cause severe transmission damage.

## CAUTION!

If a transmission fluid leak occurs, visit an authorized dealer immediately. Severe transmission damage may occur. An authorized dealer has the proper tools to adjust the fluid level accurately.

## Fluid And Filter Changes

Under normal operating conditions, the fluid installed at the factory will provide satisfactory lubrication for the life of the vehicle.

Routine fluid and filter changes are not required. However, change the fluid and filter if the fluid becomes contaminated (with water, etc.), or if the transmission is disassembled for any reason.

### Selection Of Lubricant

It is important to use the proper transmission fluid to ensure optimum transmission

performance and life. Use only the recommended transmission fluid ⇒ page 478. It is important to maintain the transmission fluid at the correct level using the recommended fluid. No chemical flushes should be used in any transmission; only the approved lubricant should be used.

#### CAUTION!

Using a transmission fluid other than the manufacturer's recommended fluid may cause deterioration in transmission shift quality and/or torque converter shudder ⇒ page 478.

# REAR AXLE AND 4x4 FRONT DRIVING **AXLE FLUID LEVEL**

For normal service, periodic fluid level checks are not required. When the vehicle is serviced for other reasons the exterior surfaces of the axle assembly should be inspected. If gear oil leakage is suspected inspect the fluid level page 478. This inspection should be made with the vehicle in a level position.

The fluid level should be even with the bottom of the fill hole (within 1/4 in (6.4 mm) of edge of hole) for the front axle and rear axle.

### **Drain And Refill**

For the proper maintenance intervals 

⇒ page 395.

#### **Lubricant Selection**

For further information □ page 478.

#### NOTE:

The presence of water in the gear lubricant will result in corrosion and possible failure of differential components. Operation of the vehicle in water, as may be encountered in some off-highway types of service, will require draining and refilling the axle to avoid damage.

### Limited-Slip Differentials

Rear axles equipped with a Limited Slip
Differential require that 5 oz. (148 ml) Mopar
Limited Slip Additive be added to the gear
lubricant ♀ page 478. The Mopar Limited Slip
Additive should be added to the gear lubricant
whenever a fluid change is made to an axle
equipped with a Limited Slip Differential.

#### NOTE:

When refilling a limited slip differential axle which requires a friction modification additive, the additive should be added before the gear lubricant to ensure proper additive fill.

## **TRANSFER CASE**

### Fluid Level Check

This fluid level can be checked by removing the filler plug. The fluid level should be to the bottom edge of the filler plug hole (or within 1/8 inch of the bottom) with the vehicle in a level position.

## **Drain And Refill**

#### Selection Of Lubricant

Use only the recommended fluid ♀ page 478.

## **FUSES**

#### **General Information**

#### WARNING!

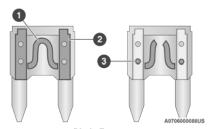
- When replacing a blown fuse, always use an appropriate replacement fuse with the same amp rating as the original fuse. Never replace a fuse with another fuse of higher amp rating. Never replace a blown fuse with metal wires or any other material. Do not place a fuse inside a circuit breaker cavity or vice versa. Failure to use proper fuses may result in serious personal injury, fire and/or property damage.
- Before replacing a fuse, make sure that the ignition is off and that all the other services are switched off and/or disengaged.
- If the replaced fuse blows again, contact an authorized dealer.
- If a general protection fuse for safety systems (air bag system, braking system), power unit systems (engine system, transmission system) or steering system blows, contact an authorized dealer.

If it is necessary to wash the engine compartment, take care not to directly hit the fuse box, and the windshield wiper motors with water.

The fuses protect electrical systems against excessive current.

When a device does not work, you must check the fuse element inside the blade fuse for a break/melt.

Also, please be aware that when using power outlets for extended periods of time with the engine off may result in vehicle battery discharge.

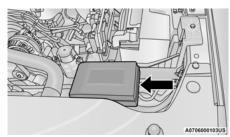


**Blade Fuses** 

- 1 Fuse Element
- 2 Blade Fuse with a good/functional fuse element
- 3 Blade fuse with a bad/not functional fuse element (blown fuse)

## **External Power Distribution Center**

The Power Distribution Center is located in the engine compartment near the battery. This center contains cartridge fuses, micro fuses, relays, and circuit breakers. A description of each fuse and component may be stamped on the inside cover, otherwise the cavity number of each fuse is stamped on the inside cover that corresponds to the following chart.



**Power Distribution Center** 

Cavity	Cartridge Fuse	Micro Fuse	Description
F01	-	25 Amp Clear	Fuel Pump Motor
F03	-	5 Amp Tan	MGU
F04	-	-	Spare
F05	-	-	Spare

Cavity	Cartridge Fuse	Micro Fuse	Description
F06	-	10 Amp Red	OUTPUT TO UPFITTER PDC — If Equipped
F07	-	-	Spare
F08	20 Amp Blue	-	Trailer Tow Backup
F09	-	20 Amp Yellow	Trailer Stop / Turn Lamp Left
F10	-	20 Amp Yellow	Trailer Stop / Turn Lamp Right
F11	-	15 Amp Blue	ID/CLEARANCE LIGHTS — If Equipped
F12	20 Amp Blue	-	Trailer Tow Park Lamp
F13	-	-	Spare
F14	-	10 Amp Red	AC Clutch
F15	-	5 Amp Tan	Intelligent Battery Sensor (IBS)
F16	-	-	Spare
F17	-	20 Amp Yellow	Air Suspension
F18	-	15 Amp Blue	AGS / Rear Axle Cooling Valve / Active Air Dam
F19	-	-	Spare
F20	-	20 Amp Yellow	Adjustable Pedals
F21	30 Amp Pink	-	Power Side Step
F22	50 Amp Red	-	Air Module
F23	-	-	Spare
F24	-	20 Amp Yellow	TCM SBW
F25	40 Amp Green	-	Exterior Lights 2

Cavity	Cartridge Fuse	Micro Fuse	Description
F26	50 Amp Red	-	ESP Module
F27	30 Amp Pink	-	Front Wiper
F28	-	10 Amp Red	PCM / ECM
F29	40 Amp Green	-	ESP Module
F30	-	-	Spare
F31	-	-	Spare
F32	20 Amp Blue	-	ECM / PCM
F33	30 Amp Pink	-	Brake Vacuum Pump
F34	-	_	Spare
F35	-	10 Amp Red	PCM / ECM / Power Pack Unit (PPU) Motor Generator Unit (MGU) Wake Up / EPS / Active Tuned Mass Module (ATMM) / ESP
F36	-	-	Spare
F37	-	5 Amp Tan	R / S Output to iPDC
F38	-	10 Amp Red	DTCM / Active CL TEMP VLV
F39	-	15 Amp Red	MOD ATMM
F40	40 Amp Green	_	Starter
F41	-	10 Amp Red	IRCAM Heaters
F42	20 Amp Blue	_	AUX SWITCH #5 — If Equipped
F43	-	20 Amp Yellow	MGU Coolant Pump
F44	-	10 Amp Red	Trailer Camera
F45	-	10 Amp Red	ADCM — If Equipped

Cavity	Cartridge Fuse	Micro Fuse	Description
F46	30 Amp Pink	-	Fuel Heater
F47	30 Amp Pink	-	Rear Defroster
F48	-	-	Spare
F49	30 Amp Pink	-	Htr Ctrl (Diesel Only)
F50	20 Amp Blue	-	AUX SWITCH #6 — If Equipped
F51	25 Amp White	-	FUEL PUMP MOTOR #1 — If Equipped
F52	-	-	Spare
F53	-	10 Amp Red	Supply / Purging Pump – If Equipped
F54	-	15 Amp Blue	PCM
F55	-	15 Amp Blue	Right HID Headlamp
F56	-	-	Spare
F57	-	20 Amp Yellow	Horn
F58	25 Amp White	-	FUEL PUMP MOTOR #2 — If Equipped
F59	-	25 Amp Clear	Injectors / IGN Coil / Glow Plug Module
F60	-	20 Amp Yellow	ECM / PCM / ACT Short Running Valve
F61	-	15 Amp Blue	Left HID Headlamp / Spare
F62	60 Amp Blue 40 Amp Green	-	Glow Plug (DSL) / LTR Coolant Pump (TRX)
F63	20 Amp Blue	-	NOx Sensor
F64	-	10 Amp Red	PM Sensor - If Equipped

- When installing the power distribution center cover, it is important to ensure the cover is properly positioned and fully latched. Failure to do so may allow water to get into the power distribution center and possibly result in an electrical system failure.
- When replacing a blown fuse, it is important to use only a fuse having the correct amperage rating. The use of a fuse with a rating other than indicated may result in a dangerous electrical system overload. If a properly rated fuse continues to blow, it indicates a problem in the circuit that must be corrected.

### Internal Power Distribution Center

The Power Distribution Center is located under the drivers side instrument panel. This center contains cartridge fuses, micro fuses, relays, and circuit breakers. A description of each fuse and component may be stamped on the inside cover, otherwise the cavity number of each fuse is stamped on the inside cover that corresponds to the following chart.

Cavity	Cartridge Fuse	Micro Fuse	Description
F01	30 Amp Pink	-	Trailer Tow Receptacle
F03	-	20 Amp Yellow	Module Seat Heater Front (Pass)
F04	-	-	Spare
F05	-	20 Amp Yellow	Module PPU Cooling Fan
F06	-	-	Spare
F07	40 Amp Green	-	Mod CBC 3 PWR Locks
F08	-	-	Spare

Cavity	Cartridge Fuse	Micro Fuse	Description
F09	-	-	Spare
F10	40 Amp Green	-	HVAC Blower Motor
F11	-	5 Amp Tan	Output to Under-hood Power Distribution Center (UPDC) Run Coil
F12	-	25 Amp Clear	Mod Audio Amplifier / Active Noise Cancellation / SW Inverter
F13	-	20 Amp Yellow	Mod Seat Heater Front (Driver)
F14	-	15 Amp Blue	Mod Seat Heater Front (Steering Wheel)
F15	-	-	Spare
F16	-	-	Spare
F17	-	20 Amp Yellow	LT Spot Lamp — If Equipped
F18	30 Amp Pink	-	Motor Sunshade Sunroof
F19	-	-	Spare
F20	-	20 Amp Yellow	Comfort Rear Seat Module (CRSM) (Heat Rear RT)
F21	-	-	Spare
F22	-	-	Spare
F23	-	-	Spare
F24	-	15 Amp Blue	Mod RF Hub / Mod Ignition / Mod Cluster
F25	40 Amp Green	-	Mod Integrated Trailer Brake
F26	-	15 Amp Blue	Mod Cluster CCN / Mod Cyber Security
F27	-	5 Amp Tan	Mod Cluster CCN / Mod SGW
F28	-	10 Amp Red	Mod ORC

Cavity	Cartridge Fuse	Micro Fuse	Description
F29	-	20 Amp Yellow	Mod CRSM (Heat Rear LT)
F30	30 Amp Pink	-	Mod DTCM / Mod Tailgate
F31	30 Amp Pink	-	Mod CBC 1 Interior Light
F32	-	20 Amp Yellow	RT Spot Lamp — If Equipped
F33	-	10 Amp Red	Assy Overhead Console / Switch 911 / Switch Assist / Heads Up Display (HUD)
F34	-	15 Amp Blue	Frt & RR Ventilated Seat Motor
F35	-	10 Amp Red	Mod Inverter / Mtr Sunshade Sunroof / Mtr Dual Sunroof / USB Charge Only
F36	40 Amp Green	-	Mod CBC 2 Exterior Light 1
F37	-	-	Spare
F38	-	-	Spare
F39	-	-	Spare
F40	20 Amp Blue	-	Dome Pursuit Vehicle — If Equipped
F41 A&B	-	15 Amp Blue	Lumbar Support & Pass SW / Mod ICS Sw Bank / HVAC Ctrl / Sw Bank Upper / Mod Ctrl Steering
F42 A&B	-	10 Amp Red	Mod Transfer Case Switch Module (TCSM) / SBW / Electric Park Brake SW / Overhead Console (OHC) SW / E-Call / Bank 3 SW / Seat LT & RT Vent / Mod Trailer A&B Tire Pressure / Mod Gateway Trailer
F43 A&B	-	10 Amp Red	Port Diagnostics / Mod CD / Front & Rear USB
F44	-	20 Amp Yellow	Radio / DCSD / Telematics Box Mod / Fleet Telematics Module (FTM)

Cavity	Cartridge Fuse	Micro Fuse	Description
F45	30 Amp Pink	-	Mod Door MUX Driver
F46	30 Amp Pink	-	Mod Door MUX Passenger
F47 A&B	-	-	Spare
F48A	-	10 Amp Red	Rear View Mirror / SW Window Passenger / Rear USB / Wireless Charging Pad Mod
F49	-	15 Amp Blue	Mod CVPM / SNSR Blind Spot / HDLP Adaptive Front Lighting Sensor (AFLS)
F50A	-	10 Amp Red	Battery PACK Control Mod
F51 A&B	-	-	Spare
F52	20 Amp Blue	-	Direct Battery Feed — If Equipped
F53	-	10 Amp Red	Trailer Reverse Steering Control / Trailer Steering Control Knob
F54B	-	20 Amp Yellow	Power Outlet Center Seat
F55	25 Amp White	-	Upfitter — If Equipped
F56	30 Amp Pink	-	Mod Network Interface — If Equipped
F57	20 Amp Blue	-	Direct Battery Feed — If Equipped
F58	20 Amp Blue	-	Direct Battery Feed — If Equipped
F60	50 Amp Red	-	Mod Inverter
F61	-	-	Spare
F62 A&B	-	10 Amp Red	ITBM / Mod Occupant Class / Mod IAIR Suspension / Mod HVAC Snsr Incar Temp / Rear Coolant Temp / PTS / Mod IRCM / HRLS / Mod Gateway Trailer TPM

- When installing the power distribution center cover, it is important to ensure the cover is properly positioned and fully latched. Failure to do so may allow water to get into the power distribution center and possibly result in an electrical system failure.
- When replacing a blown fuse, it is important to use only a fuse having the correct amperage rating. The use of a fuse with a rating other than indicated may result in a dangerous electrical system overload. If a properly rated fuse continues to blow, it indicates a problem in the circuit that must be corrected.

## **BULB REPLACEMENT**

# Replacement Bulbs

## NOTE:

See an authorized dealer for LED bulb replacement.

All of the inside bulbs are brass or glass-wedge base. Aluminum base bulbs are not approved.

Interior Bulbs		
Bulb Name Bulb Number		
Overhead Console Lamps TS 212-9		
Dome Lamp 7679		
NOTE: For lighted switches, see an authorized dealer for replacement instructions.		

Exterior Bulbs		
Bulb Name	Bulb Number	
Low Beam (Halogen Reflector Headlamp)	H11LL	
High Beam (Halogen Reflector Headlamp)	9005LL	
Low & High Beam (LED Reflector Headlamp)	LED (Serviced at an authorized dealer)	
Low & High Beam (LED Projector Headlamp)	LED (Serviced at an authorized dealer)	
Turn Signal / Front Position (Halogen Reflector Headlamp)	7444NA	
Turn Signal / Front Position (LED Headlamps)	LED (Serviced at an authorized dealer)	

Exterior Bulbs		
Bulb Name	Bulb Number	
Front Side Marker (Halogen Reflector Headlamp)	W5W	
Front Side Marker (LED Headlamps)	LED (Serviced at an authorized dealer)	
Front Fog Lamps (Halogen Reflector Headlamp)	H11LL	
Front Fog Lamps (LED Headlamps)	LED (Serviced at an authorized dealer)	
Side Indicators (Front And Side View Mirror)	LED (Serviced at an authorized dealer)	
Base Rear Tail/Turn and Stop Lamp	7440LL/W21WLL	
Premium Rear Tail/Turn/Backup and Stop Lamp	LED (Serviced at an authorized dealer)	
Base Backup Lamp	7440/W21W	
Center High Mounted Stop Lamp (CHMSL)	921	
Cargo Lamp	921	
Rear License Plate Lamp	LED (Serviced at an authorized dealer)	
Base Turn Lamp	7440NA / WY21W	

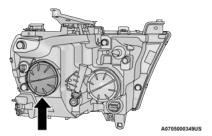
## Replacing Exterior Bulbs

Base Quad: Low Beam Headlamp, High Beam Headlamp, Front Park And Turn — If Equipped

#### Low Beam

See below steps to replace:

- 1. Open the hood.
- 2. Disconnect and isolate the negative battery cable.
- Locate the low beam access cover, which can be found on the back side of the headlamps.



**Low Beam Headlight Cover** 

### NOTE:

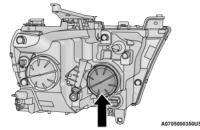
It may be necessary to remove/reposition Air Cleaner Assembly to access passenger side headlamp/side marker light bulbs.

- Disengage the bulb access cover by rotating counterclockwise.
- 5. Disconnect the internal lamp wiring harness connector from the low beam bulb.

## CAUTION!

- Do not contaminate the bulb glass by touching it with your fingers or by allowing it to contact other oily surfaces. Shortened bulb life will result.
- Always use the correct bulb size and type for replacement. An incorrect bulb size or type may overheat and cause damage to the lamp, the bulb socket, or the lamp wiring.
- 6. Rotate the bulb counterclockwise a quarter turn to unlock the bulb from the lamp.
- 7. Pull the bulb straight out from the housing.
- 8. Reverse the procedure for installation of new bulb and covers.

#### **High Beam**



**High Beam Headlight Cover** 

See below steps to replace:

- 1. Open the hood.
- 2. Disconnect and isolate the negative battery cable.
- Locate the high beam access cover, which can be found on the back side of the headlamps.

#### NOTE:

It may be necessary to remove/reposition Air Cleaner Assembly to access passenger side headlamp/side marker light bulbs.

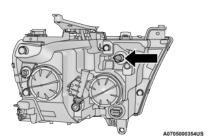
- Reach behind the headlamp and disengage the access cover by rotating counterclockwise.
- 5. Disconnect the internal lamp wiring harness connector from the high beam bulb.

- Do not contaminate the bulb glass by touching it with your fingers or by allowing it to contact other oily surfaces. Shortened bulb life will result.
- Always use the correct bulb size and type for replacement. An incorrect bulb size or type may overheat and cause damage to the lamp, the bulb socket, or the lamp wiring.
- 6. Rotate the bulb counterclockwise a quarter turn to unlock the bulb from the lamp.
- 7. Pull the bulb straight out from the housing.
- 8. Reverse the procedure for installation of new bulb and cover.

#### Front Park And Turn

See below steps to replace:

- 1. Open the hood.
- 2. Disconnect and isolate the negative battery cable.
- Locate the park and turn socket, which can be found on the back side of the headlamps.



**Park And Turn Socket** 

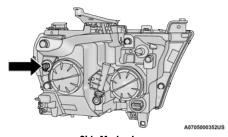
- Reach behind the headlamp and unlock the park and turn socket from the lamp by rotating counterclockwise a quarter turn.
- 5. Pull the bulb straight out from the housing.

- 6. Separate the bulb from the socket without twisting.
- Reverse the procedure for installation of new bulb and covers.

## Side Marker Lamp

See below steps to replace:

- 1. Open the hood.
- 2. Disconnect and isolate the negative battery cable.
- Locate the side marker lamp, which can be found on the back side of the headlamps.



Side Marker Lamp

- 4. Disengage the side marker socket by rotating counterclockwise a quarter turn.
- 5. Pull the socket and bulb straight out from the housing.
- 6. Separate the bulb from the socket without twisting.
- 7. Reverse the procedure for installation of new bulb and covers.

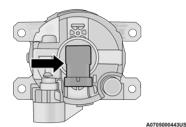
## Fog Lamps — If Equipped

Please see an authorized dealer for service on LED and Halogen front fog lamps.

## Halogen

See below steps to replace:

- Reach under and behind the front fascia/ bumper to access the back of the front fog lamp housing.
- 2. Disconnect the fog lamp wiring harness connector from the fog lamp bulb.



Fog Lamp Bulb

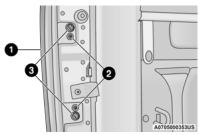
- 3. Rotate the bulb counterclockwise a quarter turn to unlock the bulb from the housing.
- 4. Pull the bulb straight out from the housing.
- Reverse the procedure to install the bulb and cover.

## CAUTION!

Do not contaminate the bulb glass by touching it with your fingers or by allowing it to contact other oily surfaces. Shortened bulb life will result.

Rear Tail/Stop, Turn Signal And Backup Lamps See below steps to replace:

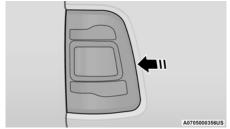
 Remove the two screws and push pins retainers that pass through the bed sheet metal.



Tail Lamp Locations

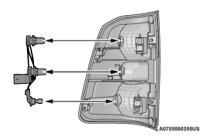
- 1 Tail Lamp
- 2 Fasteners
- 3 Push Pin Retainers

Pull the outboard side of the lamp rearward far enough to unsnap the two receptacles on the outboard side of the lamp housing from the two plastic snap post retainers in the outer box side panel.



Tail Lamp Removal

Disconnect the wiring harness connectors from the bulb socket.



**Wiring Harness Connector** 

- 4. Rotate the bulb socket counterclockwise a quarter turn to unlock it from the housing.
- 5. Pull the bulb straight out of the socket.

### CAUTION!

Do not contaminate the bulb glass by touching it with your fingers or by allowing it to contact other oily surfaces. Shortened bulb life will result.

6. Reverse the procedure to install the bulb and housing.

Center High Mounted Stop Lamp (CHMSL) With Cargo Lamp

See below steps to replace:

1. Remove the four screws holding the housing/lens to the body as shown.



**CHMSL Mounting Screw Locations** 

2. Separate the connector holding the housing and wiring harness to the body.



**CHMSL Bulb Location** 

- Turn the desired bulb socket a quarter turn counterclockwise and remove the socket and bulb from housing.
- 4. Pull the desired bulb straight from the socket.

Do not contaminate the bulb glass by touching it with your fingers or by allowing it to contract other oily surfaces. Shortened bulb life will result.

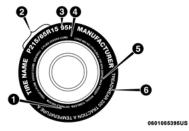
- Outside Bulbs: Cargo Lamps
- Inside Bulb: Center High Mounted Stop Lamp
- 5. Reverse the procedure for installation of bulbs and housing.

# **TIRES**

### TIRE SAFETY INFORMATION

Tire safety information will cover aspects of the following information: Tire Markings, Tire Identification Numbers, Tire Terminology and Definitions, Tire Pressures, and Tire Loading.

## Tire Markings



# Tire Markings

- 1 US DOT Safety Standards Code (TIN)
- 2 Size Designation
- 3 Service Description
- 4 Maximum Load
- 5 Maximum Pressure
- 6- Treadwear, Traction and  $\overline{\text{Temperature Grades}}$

#### NOTE:

 P (Passenger) — Metric tire sizing is based on US design standards. P-Metric tires have the letter "P" molded into the sidewall preceding the size designation. Example: P215/65R15 95H.

- European Metric tire sizing is based on European design standards. Tires designed to this standard have the tire size molded into the sidewall beginning with the section width. The letter "P" is absent from this tire size designation. Example: 215/65R15 96H.
- LT (Light Truck) Metric tire sizing is based on US design standards. The size designation for LT-Metric tires is the same as for P-Metric tires except for the letters "LT" that are molded into the sidewall preceding the size designation. Example: LT235/85R16.
- Temporary spare tires are designed for temporary emergency use only. Temporary high pressure compact spare tires have the letter "T" or "S" molded into the sidewall preceding the size designation. Example: T145/80D18 103M.
- High flotation tire sizing is based on US design standards and it begins with the tire diameter molded into the sidewall. Example: 31x10.5 R15 LT.

## **Tire Sizing Chart**

### **EXAMPLE:**

Example Size Designation: P215/65R15XL 95H, 215/65R15 96H, LT235/85R16C, T145/80D18 103M, 31x10.5 R15 LT

P = Passenger car tire size based on US design standards, or

"....blank...." = Passenger car tire based on European design standards, or

LT = Light truck tire based on US design standards, or

T or S = Temporary spare tire or

31 = Overall diameter in inches (in)

**215, 235, 145** = Section width in millimeters (mm)

**65, 85, 80** = Aspect ratio in percent (%)

• Ratio of section height to section width of tire, or

**10.5** = Section width in inches (in)

R = Construction code

• "R" means radial construction, or

• "D" means diagonal or bias construction

**15, 16, 18** = Rim diameter in inches (in)

Service Description:

95 = Load Index

A numerical code associated with the maximum load a tire can carry

## **EXAMPLE:**

H = Speed Symbol

- A symbol indicating the range of speeds at which a tire can carry a load corresponding to its load index under certain operating conditions
- The maximum speed corresponding to the speed symbol should only be achieved under specified operating conditions (i.e., tire pressure, vehicle loading, road conditions, and posted speed limits)

### Load Identification:

Absence of the following load identification symbols on the sidewall of the tire indicates a Standard Load (SL) tire:

- XL = Extra load (or reinforced) tire, or
- LL = Light load tire or
- C, D, E, F, G = Load range associated with the maximum load a tire can carry at a specified pressure

Maximum Load - Maximum load indicates the maximum load this tire is designed to carry

Maximum Pressure - Maximum pressure indicates the maximum permissible cold tire inflation pressure for this tire

## Tire Identification Number (TIN)

The Tire Identification Number (TIN) may be found on one or both sides of the tire; however, the date code may only be on one side. Tires with white sidewalls will have the full TIN, including the date code, located on the white sidewall side of the tire. Look for the TIN on the outboard side of black sidewall tires as mounted on the vehicle. If the TIN is not found on the outboard side, then you will find it on the inboard side of the tire.

#### **EXAMPLE:**

DOT MA L9 ABCD 0301

**DOT** = Department of Transportation

• This symbol certifies that the tire is in compliance with the US Department of Transportation tire safety standards and is approved for highway use

**MA** = Code representing the tire manufacturing location (two digits)

## **EXAMPLE:**

**L9** = Code representing the tire size (two digits)

**ABCD** = Code used by the tire manufacturer (one to four digits)

**03** = Number representing the week in which the tire was manufactured (two digits)

• 03 means the 3rd week

**01** = Number representing the year in which the tire was manufactured (two digits)

- 01 means the year 2001
- Prior to July 2000, tire manufacturers were only required to have one number to represent the year in which the tire was manufactured. Example: 031 could represent the 3rd week of 1981 or 1991

## **Tire Terminology And Definitions**

Term	Definition	
B-Pillar	The vehicle B-Pillar is the structural member of the body located behind the front door.	
Cold Tire Inflation Pressure	Cold tire inflation pressure is defined as the tire pressure after the vehicle has not been driven for at least three hours, or driven less than 1 mile (1.6 km) after sitting for a minimum of three hours. Inflation pressure is measured in units of PSI (pounds per square inch) or kPa (kilopascals).	
Maximum Inflation Pressure	The maximum inflation pressure is the maximum permissible cold tire inflation pressure for this tire. The maximum inflation pressure is molded into the sidewall.	
Recommended Cold Tire Inflation Pressure	FCA's recommended cold tire inflation pressure as shown on the tire placard.	
Tire Placard	A label permanently attached to the vehicle describing the vehicle's loading capacity, the original equipment tire sizes and the recommended cold tire inflation pressures.	