### REPORT NO. 118-KAR-07-001

## SAFETY COMPLIANCE TESTING FOR FMVSS 118

# Power-Operated Window, Partition, And Roof Panel Systems

2007 PONTIAC G6 GT 2-DOOR COUPE

NHTSA NO. C70120

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October 03, 2007

Final Report

PREPARED FOR:
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NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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### 1. PURPOSE OF COMPLIANCE TEST

Tests were conducted on a 2007 Pontiac G6 GT 2-Door Coupe, manufactured by General Motors Corporation to determine compliance with FMVSS 118 "Power-Operated Window, Partition, and Roof Panel Systems". FMVSS 118 specifies requirements for power operated window, partition and roof panel systems to minimize the likelihood of death or injury from their accidental operation.

All tests were conducted based on the current National Highway Traffic Safety Administration (NHTSA), Office of Vehicle Safety Compliance (OVSC) Laboratory Procedures, TP-118-05, dated March 24, 2005, and corresponding KARCO Engineering test procedure KTP-118, dated March 16, 2004. Detailed procedures for receiving, inspecting, testing and reporting of test results are described in the test procedures and are not repeated in this report.

### 2. TEST PROCEDURE AND DATA SUMMARY

A 2007 Pontiac G6 GT 2-Door Coupe was subjected to FMVSS 118 compliance testing. The tests were conducted at KARCO Engineering in Adelanto, California on October 03, 2007. FMVSS 118 Compliance testing was performed in the following sequence:

- Vehicle Receiving Photographs
- Test Vehicle Check-in
- Power Window, Partitions and Roof Panel Identification/Documentation
- Interior, Exterior and Remote Control Switch Identification/Documentation
- Pre-Test Operation of all Power Windows, Partitions and Roof Panels
- Photograph Vehicle Ignition Switch and Master and Individual Power Window,
   Partition and Roof Panel Switches
- Perform Ignition Switch off Test
- Perform Ignition Key Removed Test
- Perform Exterior Key Locking System Test
- Perform Remote Control System Test
- Perform Reversal System Test

### **DATA SUMMARY**

VEHICLE				
YEAR	2007	MAKE	Pontiac	
MODEL	G6 GT	BODY STYLE	2-Door Coupe	
NHTSA NO.	C70120	VIN	1G2ZH18N274149507	
TEST DATE:	10/03/07			

#### **SWITCH ACTUATION**

WINDOWS,	INTERIOR KEY	EXTERIOR						
PARTITIONS,	IGNITION KEY IGNITION KEY REMOVED		LOCKING					
ROOF PANEL	OFF	(PASS/FAIL)	SYSTEM					
SWITCHES	(PASS/FAIL)		(PASS / FAIL)					
	MASTER SW	ITCH PANEL						
Left Front (LF)	Left Front (LF) PASS PASS							
Right Front (RF)	PASS	PASS	N/A					
Left Rear (LR)	N/A	N/A	N/A					
Right Rear (RR)	N/A	N/A	N/A					
Tail Gate (TG)	N/A	N/A	N/A					
Partition	N/A	N/A	N/A					
Roof Panel (RP)	N/A	N/A	N/A					
	INDIVIDUAL	SWITCHES						
Left Front (LF)	PASS	PASS	N/A					
Right Front (RF)	PASS	PASS	N/A					
Left Rear (LR)	N/A	N/A	N/A					
Right Rear(RR)	N/A	N/A	N/A					
Tail Gate (TG)	N/A	N/A	N/A					
Partition (P)	N/A	N/A	N/A					
Roof Panel (RP)	PASS	PASS	N/A					

**REMARKS**: The master switch control panel is located on the driver's side door panel and includes the individual left front window switch. Vehicle passed as soon as ignition "off" test was performed.

This vehicle is equipped with a window indexing feature that allows the windows to be rolled down a small amount (23mm) with door opening, and window rolls up upon door closing. This opening does not allow the top of the window to be separated from the window seal to allow anything to be placed in the gap.

## **DATA SUMMARY...(CONTINUED)**

## **REMOTE ACTUATION DEVICE**

VEHICLE ORIENTATION REMOTE ACTUATION DEVICE	NON-LINE OF SIGHT REMOTE (METERS)	LINE OF SIGHT REMOTE (METERS)
FRONT	N/A	N/A
DRIVER SIDE	N/A	N/A
PASSENGER SIDE	N/A	N/A
REAR	N/A	N/A

### WPRP OBSTRUCTION FORCE REVERSAL

WINDOW, PARTITION, ROOF PANEL	FORCE TO REVERSE (NEWTONS)	DISTANCE WINDOW, PARTITION, OR ROOF PANEL OPENED ON REVERSAL (mm)
LEFT FRONT (LF)	N/A	N/A
RIGHT FRONT (RF)	N/A	N/A
LEFT REAR (LR)	N/A	N/A
RIGHT REAR (RR)	N/A	N/A
PARTITION (P)	N/A	N/A
ROOF PANEL (RP)	N/A	N/A
TAIL GATE (TG)	N/A	N/A

**REMARKS**: This vehicle is not equipped with automatic power window up feature. This vehicle is not equipped with a remote actuation device that allows the windows to be opened.

The subject 2007 Pontiac G6 GT 2-Door Coupe appeared to meet the requirements of FMVSS 118.

# 3. TEST DATA

# DATA SHEET NO. 1 VEHICLE IDENTIFICATION

VEHICLE				
YEAR	2007	MAKE	Pontiac	
MODEL	G6 GT	BODY STYLE	2-Door Coupe	
NHTSA NO.	C70120	VIN	1G2ZH18N274149507	
TEST DATE:	10/03/07			

**Identify Vehicle equipped WPRP and WPRP controls** 

	LEFT FRONT	LEFT REAR	RIGHT FRONT	RIGHT REAR	TAIL GATE	PARTITION	ROOF PANEL
Power Windows	Χ	N/A	Χ	N/A	N/A	N/A	Χ
Interior Switches	Χ	N/A	Х	N/A	N/A	N/A	Χ
Master Control Panel	X	N/A	Х	N/A	N/A	N/A	N/A
Exterior Switches	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Remote Controller	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Auto-Reverse	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Master Control Panel Location: <u>Driver Side Door Panel</u>

Remote Control: None

Window Switch Design: Master Control Switches - Flush Mounted Rocker Switch push

down to open, pull up to close.

Individual Window Switches – Flush Mounted Rocker Switch

push down to open, pull up to close.

Exterior Control Switch: None

Sunroof: Flush Mounted Rocker Switch. Push down to open, push down to close.

**REMARKS:** Master control panel switch is located in the driver side door panel. Individual switches are located in each respective door panel. On this vehicle the reversal feature is not required because the windows appear to meet the operational requirements of FMVSS 118 paragraph S.4.

RECORDED BY:	MATTHEW S. HUBBARD	DATE:	10/03/07
APPROVED BY:	MICHAEL L. DUNLAP	DATE:	10/03/07

# DATA SHEET NO. 2 IGNITION KEY OFF TEST

VEHICLE				
YEAR	2007	MAKE	Pontiac	
MODEL	G6 GT	BODY STYLE	2-Door Coupe	
NHTSA NO.	C70120	VIN	1G2ZH18N274149507	
TEST DATE:	10/03/07			

Pre-Test Check: Window, Partition, Roof Panel Systems operate with Ignition Switch in "ON" Position					Х	NO	
Pre-Test Check: Window, Partition, Roof Panel Systems operate with Ignition Switch in "ACCESSORY" Position				YES		NO	Х
WINDOW	DOORS	CLOSED	LEFT DO	OR OPEN	RIGHT D	OOR OPE	F A33/
SWITCHES	INOP.	OPER.	INOP.	OPER.	INOP.	OPER.	FAIL
			MASTER		_		_
Left Front (LF)	N/A	X	X	N/A	X	N/A	PASS
Right Front (RF)	N/A	X	X	N/A	X	N/A	PASS
Left Rear (LR)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Rear (RR)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tail Gate (TG)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Partition (P)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roof Panel (RP)	N/A	Х	Х	N/A	Х	N/A	PASS
		IN	DIVIDUAL				
Left Front (LF)	N/A	X	X	N/A	X	N/A	PASS
Right Front (RF)	N/A	X	Х	N/A	X	N/A	PASS
Left Rear (LR)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Rear (RR)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tail Gate (TG)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Partition (P)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roof Panel (RP)	N/A	Х	Х	N/A	Х	N/A	PASS

**REMARKS**: The master left front switch is the same as the individual left front switch. Test was performed with key in the "Lock" position. For the pre-test check in the "Accessory" position the key was moved from the "Lock" position to the "Accessory" position without cycling through the "On" position or starting the engine. Vehicle passed as soon as ignition "off" test was performed.

RECORDED BY:	MATTHEW S. HUBBARD	DATE:	10/03/07
APPROVED BY:	MICHAEL L. DUNLAP	DATE:	10/03/07

# DATA SHEET NO. 3 IGNITION KEY REMOVED TEST

	VEHICLE				
YEAR	2007	MAKE	Pontiac		
MODEL	G6 GT	BODY STYLE	2-Door Coupe		
NHTSA NO.	C70120	VIN	1G2ZH18N274149507		
TEST DATE:	10/03/07				

DOODS SLOSED LIFET DOOD OPEN DIGHT DOOD OPEN							
WINDOW	DOORS CLOSED		LEFT DOOR OPEN		RIGHT DOOR OPEN		PASS/
SWITCHES	INOP.	OPER.	INOP.	OPER.	INOP.	OPER.	FAIL
			MASTER		_		
Left Front (LF)	N/A	X	X	N/A	X	N/A	PASS
Right Front (RF)	N/A	X	X	N/A	X	N/A	PASS
Left Rear (LR)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Rear (RR)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tail Gate (TG)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Partition (P)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roof Panel (RP)	N/A	Х	Х	N/A	Х	N/A	PASS
		I	NDIVIDUAL	_			
Left Front (LF)	N/A	X	X	N/A	X	N/A	PASS
Right Front (RF)	N/A	Х	X	N/A	Х	N/A	PASS
Left Rear (LR)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Rear (RR)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tail Gate (TG)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Partition (P)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roof Panel (RP)	N/A	Х	Х	N/A	Х	N/A	PASS

**REMARKS:** The master left front switch is the same as the individual left front switch. Vehicle passed as soon as ignition "off" test was performed.

RECORDED BY:	MATTHEW S. HUBBARD	DATE:	10/03/07
APPROVED BY:	MICHAEL L. DUNLAP	DATE:	10/03/07

# DATA SHEET NO. 4 EXTERIOR KEY LOCKING SYSTEM

	VEHICLE				
YEAR	2007	MAKE	Pontiac		
MODEL	G6 GT	BODY STYLE	2-Door Coupe		
NHTSA NO.	C70120	VIN	1G2ZH18N274149507		
TEST DATE:	10/03/07				

EXTERIOR LOCKING CONTROL SWITCH TEST				
Can Any WPRP Be Operated by Directly Using A Key in an Exterior Locking Control Switch?	Yes	N/A	No	Х
If Yes: Is Continuous Activation of the Switch Required	Yes	N/A	No	Х

# IDENTIFY WINDOW, PARTITION AND ROOF PANEL POSITIONS WHICH ARE OPERABLE WITH EXTERIOR KEY.

LOCATION	OPERABL	OPERABLE W/KEY		S ACTION	PASS / FAIL
LOCATION	YES	NO	YES	NO	
LEFT FRONT (LF)	N/A	N/A	N/A	N/A	N/A
RIGHT FRONT (RF)	N/A	N/A	N/A	N/A	N/A
LEFT REAR (LR)	N/A	N/A	N/A	N/A	N/A
RIGHT REAR (RR)	N/A	N/A	N/A	N/A	N/A
PARTITION (P)	N/A	N/A	N/A	N/A	N/A
ROOF PANEL (RP)	N/A	N/A	N/A	N/A	N/A
TAIL GATE (TG)	N/A	N/A	N/A	N/A	N/A

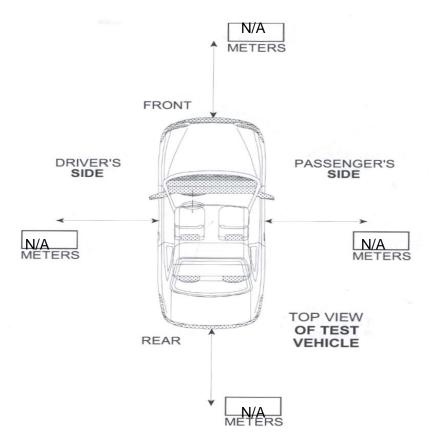
**REMARKS:** Vehicle is not equipped with an exterior key locking system capable of opening windows.

RECORDED BY:	MATTHEW S. HUBBARD	DATE:	10/03/07
APPROVED BY:	MICHAEL L. DUNLAP	DATE:	10/03/07

# DATA SHEET NO. 5 MAXIMUM OPERATING RANGE FOR LINE-OF-SIGHT REMOTE

	VEHICLE				
YEAR	2007	MAKE	Pontiac		
MODEL	G6 GT	BODY STYLE	2-Door Coupe		
NHTSA NO.	C70120	VIN	1G2ZH18N274149507		
TEST DATE:	10/03/07				

If range of operation exceeds 11 meters in any of the below measured directions, the window, partition, and roof panel must meet the reversing requirements of FMVSS 118. Continuous activation of remote device is required to close windows, partition and roof panel YES () NO ().



**REMARKS**: The vehicle is not equipped with a remote actuation device that allows the windows to be opened.

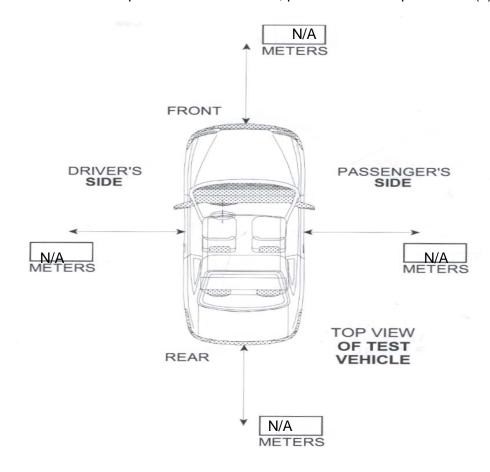
RECORDED BY: MATTHEW S. HUBBARD DATE: 10/03/07

APPROVED BY: MICHAEL L. DUNLAP DATE: 10/03/07

# DATA SHEET NO. 6 MAXIMUM OPERATING RANGE FOR NON-LINE-OF-SIGHT REMOTE

VEHICLE				
YEAR	2007	MAKE	Pontiac	
MODEL	G6 GT	BODY STYLE	2-Door Coupe	
NHTSA NO.	C70120	VIN	1G2ZH18N274149507	
TEST DATE:	10/03/07			

If range of operation exceeds 6 meters in any of the below measured directions, the window, partition, and roof panel must meet the reversing requirements of FMVSS 118. Continuous activation of remote device is required to close windows, partition and roof panel YES () NO ().



**REMARKS**: The vehicle is not equipped with a remote actuation device that allows the windows to be opened.

RECORDED BY:	MATTHEW S. HUBBARD	DATE:	10/03/07
APPROVED BY:	MICHAEL L. DUNLAP	DATE:	10/03/07

## DATA SHEET NO. 7 AUTO REVERSAL

VEHICLE					
YEAR	2007	MAKE	Pontiac		
MODEL	G6 GT	BODY STYLE	2-Door Coupe		
NHTSA NO.	C70120	VIN	1G2ZH18N274149507		
TEST DATE:	10/03/07				

# IDENTIFY WINDOW, PARTITION AND ROOF PANEL POSITIONS WHICH ARE EQUIPPED WITH AUTO REVERSAL.

Is vehicle equipped with Auto Reversal	YES	NO	Х
--	-----	----	---

SWITCHES EQUIPPED WITH AUTO REVERSAL	MASTER	INDIVIDUAL
LEFT FRONT (LF)	N/A	N/A
RIGHT FRONT (RF)	N/A	N/A
LEFT REAR (LR)	N/A	N/A
RIGHT REAR (RR)	N/A	N/A
PARTITION (P)	N/A	N/A
ROOF PANEL (RP)	N/A	N/A
TAIL GATE (TG)	N/A	N/A

**REMARKS**: On this vehicle there are no windows equipped with the auto reversal feature. The reversal feature is not required because the window appears to meet the operational requirements of FMVSS 118 paragraph S.4.

RECORDED BY:	MATTHEW S. HUBBARD	DATE:	10/03/07
APPROVED BY:	MICHAEL L. DUNLAP	DATE:	10/03/07

## DATA SHEET NO. 8 AUTO REVERSAL

VEHICLE			
YEAR	2007	MAKE	Pontiac
MODEL	G6 GT	BODY STYLE	2-Door Coupe
NHTSA NO.	C70120	VIN	1G2ZH18N274149507
TEST DATE:	10/03/07		

Distance window is open from top seam to start position.	N/A	
--	-----	--

## WPRP OBSTRUCTION FORCE REVERSAL

LEADING EDGE LEFT FRONT WINDOW	FORCE TO REVERSE (NEWTONS)	DISTANCE WINDOW, PARTITION, OR ROOF PANEL OPENED ON REVERSAL (mm)
5mm semi rigid rod	N/A	N/A
25mm semi rigid rod	N/A	N/A
50mm semi rigid rod	N/A	N/A
100mm semi rigid rod	N/A	N/A
200mm semi rigid rod	N/A	N/A

**REMARKS**: On this vehicle there are no windows equipped with the auto reversal feature. The reversal feature is not required because the window appears to meet the operational requirements of FMVSS 118 paragraph S.4.

RECORDED BY:	MATTHEW S. HUBBARD	DATE:	10/03/07
APPROVED BY:	MICHAEL L. DUNLAP	DATE:	10/03/07

## DATA SHEET NO. 9 AUTO REVERSAL

VEHICLE			
YEAR	2007	MAKE	Pontiac
MODEL	G6 GT	BODY STYLE	2-Door Coupe
NHTSA NO.	C70120	VIN	1G2ZH18N274149507
TEST DATE:	10/03/07		

Distance window is open from top seam to start position.	N/A
--	-----

## WPRP OBSTRUCTION FORCE REVERSAL

REAR EDGE LEFT FRONT WINDOW	FORCE TO REVERSE (NEWTONS)	DISTANCE WINDOW, PARTITION, OR ROOF PANEL OPENED ON REVERSAL (mm)
5mm semi rigid rod	N/A	N/A
25mm semi rigid rod	N/A	N/A
50mm semi rigid rod	N/A	N/A
100mm semi rigid rod	N/A	N/A
200mm semi rigid rod	N/A	N/A

**REMARKS**: On this vehicle there are no windows equipped with the auto reversal feature. The reversal feature is not required because the window appears to meet the operational requirements of FMVSS 118 paragraph S.4.

APPROVED BY:	MICHAEL L. DUNLAP	DATE:	10/03/07
RECORDED BY:	MATTHEW S. HUBBARD	DATE:	10/03/07

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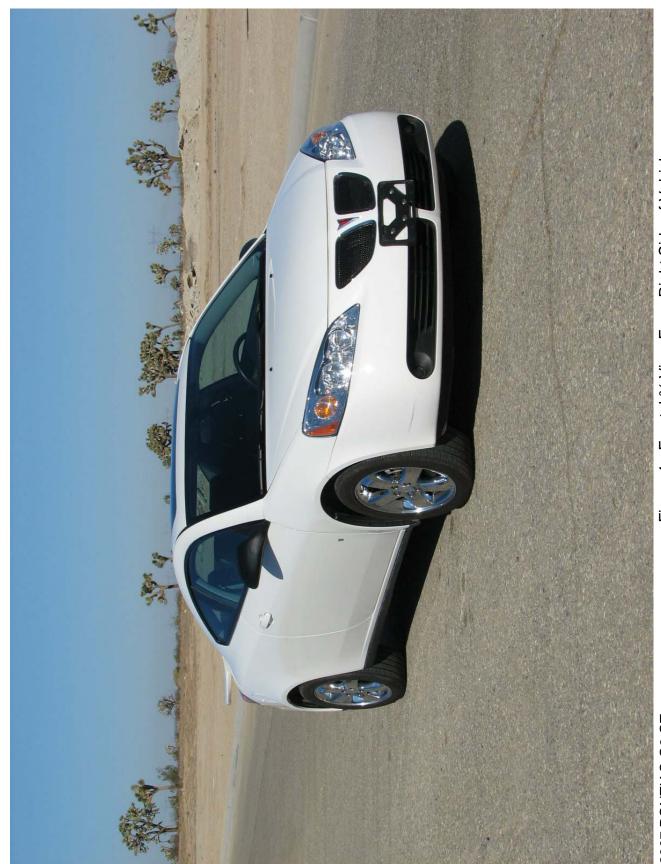


Figure 1: Frontal % View From Right Side of Vehicle

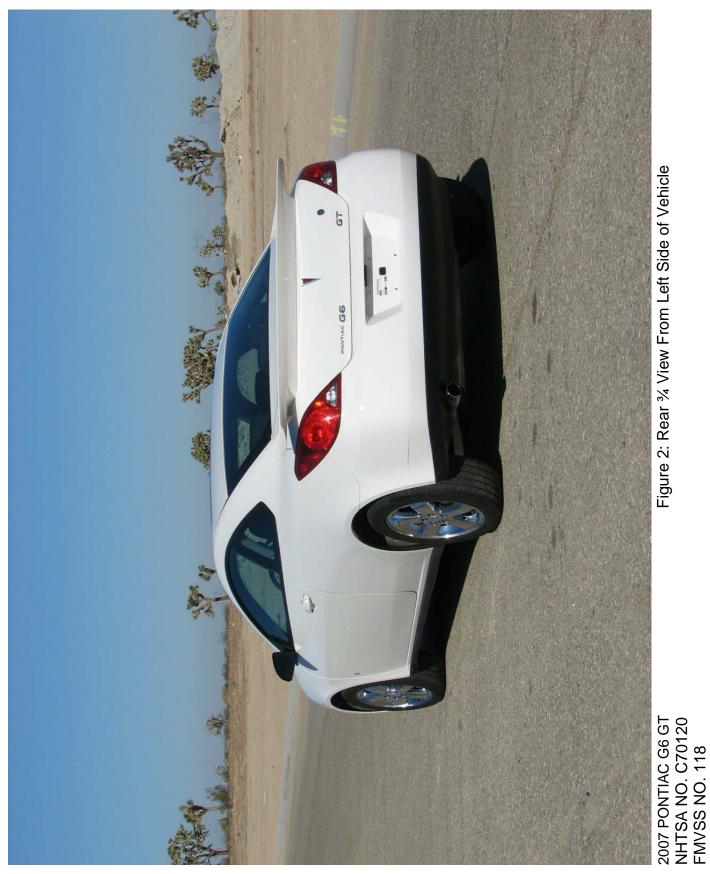


Figure 2: Rear ¾ View From Left Side of Vehicle



Figure 3: Vehicle Certification Label



Figure 4: Tire Information Placard



Figure 5: Ignition Switch



Figure 6: Left Front Master Power Window Switch



Figure 7: Right Front Power Window Switch



Figure 8: Sunroof Power Window Switch

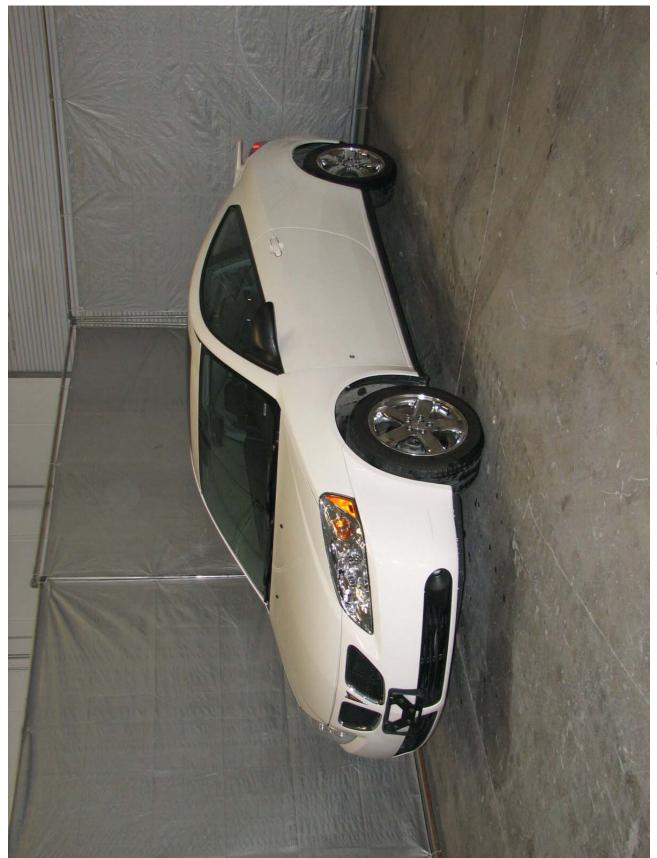


Figure 9: Overall Test Set-Up



Figure 10: Test Window With Window Indexing Down

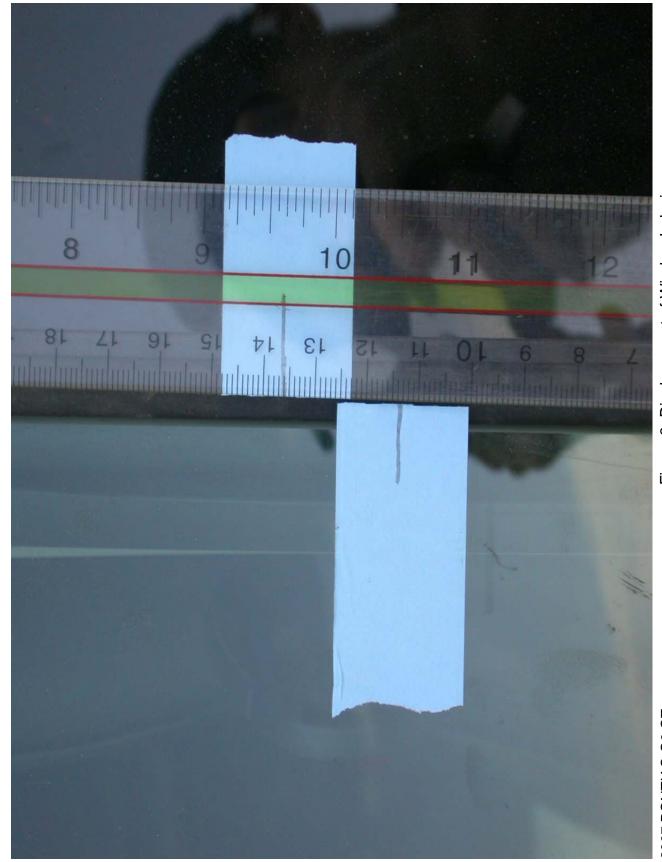


Figure 3: Displacement of Window Indexing



Figure 9: Displacement of Window Indexing on Upper Door Seal

118-KAR-07-001

# 5. DATA PLOTS



VEHICLE				
YEAR	2007	MAKE	Pontiac	
MODEL	G6 GT	BODY STYLE	2-Door Coupe	
NHTSA NO.	C70120	VIN	1G2ZH18N274149507	
TEST DATE:	10/03/07			



VEHICLE				
YEAR	2007	MAKE	Pontiac	
MODEL	G6 GT	BODY STYLE	2-Door Coupe	
NHTSA NO.	C70120	VIN	1G2ZH18N274149507	
TEST DATE:	10/03/07			

## Starting and Operating Your Vehicle

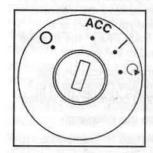
### New Vehicle Break-In

Notice: Your vehicle does not need an elaborate break-in. But it will perform better in the long run if you follow these guidelines:

- Do not drive at any one constant speed, fast or slow, for the first 500 miles (805 km). Do not make full-throttle starts. Do not exceed 5,000 engine rpm. Avoid downshifting to brake, or slow, the vehicle.
- Avoid making hard stops for the first 200 miles (322 km) or so. During this time your new brake linings are not yet broken in. Hard stops with new linings can mean premature wear and earlier replacement.
   Follow this breaking-in guideline every time you get new brake linings.
- Do not tow a trailer during break-in. See Towing a Trailer on page 296 for the trailer towing capabilities of your vehicle and more information.

Following break-in, engine speed and load can be gradually increased.

## **Ignition Positions**



With the key in the ignition switch, you can turn it to four different positions.

Notice: Using a tool to force the key from the ignition switch could cause damage or break the key. Use the correct key and turn the key only with your hand. Make sure the key is in all the way. If none of this works, then your vehicle needs service.

VEHICLE			
YEAR	2007	MAKE	Pontiac
MODEL	G6 GT	BODY STYLE	2-Door Coupe
NHTSA NO.	C70120	VIN	1G2ZH18N274149507
TEST DATE:	10/03/07		

O(OFF): This is the only position from which you can remove the key. For a vehicle with an automatic transaxle, the shift lever must be in PARK (P) with the ignition in OFF to remove the key. For a vehicle with a manual transaxle, the shift lever must be in REVERSE (R) to remove the key. A warning chime will sound if you open the driver's door while the ignition is off and the key is in the ignition.

ACC (Accessory): This position unlocks the transaxle. It also lets you use things like the radio and windshield wipers while the engine is not running. To use ACC, turn the key clockwise to the first position. Use this position if your vehicle must be pushed or towed. See Recreational Vehicle Towing on page 294.

Never try to push-start your vehicle, unless it has a manual transaxle.

I (ON): This position is where the key returns to after you start the engine and release the key. The ignition switch will stay in this position while the engine is running. But even while the engine is not running, you can use ON to operate your electrical accessories and to display some instrument panel warning lights. Use the ON position for push-starting a vehicle with a manual transaxle.

The battery could be drained if you leave the key in the ACC or ON position with the engine off. You may not be able to start your vehicle if the battery is allowed to drain for an extended period of time.

**Q** (START): This position starts the engine. When the engine starts, release the key. The ignition switch will return to the ON position for normal driving.

VEHICLE			
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## Key In the Ignition

Never leave your vehicle with the keys inside, as it is an easy target for joy riders or thieves. If you leave the key in the ignition and park your vehicle, a chime will sound, when you open the driver's door. Always remember to remove your key from the ignition and take it with you. This will lock your ignition and transaxle. Also, always remember to lock the doors.

The battery could be drained if you leave the key in the ignition while your vehicle is parked. You may not be able to start your vehicle after it has been parked for an extended period of time.

## Retained Accessory Power (RAP)

Your vehicle has a Retained Accessory Power (RAP) feature which will allow the radio and power windows, and if your vehicle has heated seats and sunroof, to continue to work up to 10 minutes after the ignition is turned OFF.

The power windows, heated seats and sunroof will work until any door is opened.

The radio will continue to work until the driver's door is opened.

All these features will work when the ignition key is in the ON or ACC (Accessory) postions.

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## Starting the Engine

To place the transaxle in the proper gear:

#### **Automatic Transaxle**

Move your shift lever to PARK (P) or NEUTRAL (N). Your engine will not start in any other position -- this is a safety feature. To restart when you are already moving, use NEUTRAL (N) only.

Notice: Shifting into PARK (P) with the vehicle moving could damage the transaxle. Shift into PARK (P) only when your vehicle is stopped.

#### Manual Transaxle

The shift lever should be in the NEUTRAL position and the parking brake engaged. Hold the clutch pedal to the floor and start the engine. Your vehicle will not start if the clutch pedal is not all the way down. That is a safety feature.

### Starting Procedure

 With your foot off the accelerator pedal, turn the ignition key to START. When the engine starts, let go of the key. The idle speed will go down as your engine gets warm. Do not race the engine immediately after starting it. Operate the engine and transaxle gently to allow the oil to warm up and lubricate all moving parts.

Your vehicle has a Computer-Controlled Cranking System. This feature assists in starting the engine and protects components. If the ignition key is turned to the START position, and then released when the engine begins cranking, the engine will continue cranking for a few seconds or until the vehicle starts. If the engine does not start and the key is held in START for many seconds, cranking will be stopped after 15 seconds to prevent cranking motor damage.

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To prevent gear damage, this system also prevents cranking if the engine is already running. Engine cranking can be stopped by turning the ignition switch to the ACC or OFF position.

Notice: Cranking the engine for long periods of time, by returning the key to the START position immediately after cranking has ended, can overheat and damage the cranking motor, and drain the battery. Wait at least 15 seconds between each try, to allow the cranking motor to cool down.

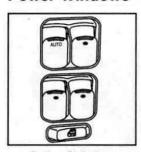
2. If the engine does not start after 5-10 seconds, especially in very cold weather (below 0°F or -18°C), it could be flooded with too much gasoline. Try pushing the accelerator pedal all the way to the floor and holding it there as you hold the key in START for up to a maximum of 15 seconds. Wait at least 15 seconds between each try, to allow the cranking motor to cool down. When the engine starts, let go of the key and accelerator. If the vehicle starts briefly but then stops again, do the same thing.

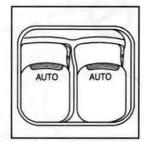
This clears the extra gasoline from the engine. Do not race the engine immediately after starting it. Operate the engine and transaxle gently until the oil warms up and lubricates all moving parts.

Notice: Your engine is designed to work with the electronics in your vehicle. If you add electrical parts or accessories, you could change the way the engine operates. Before adding electrical equipment, check with your dealer. If you do not, your engine might not perform properly. Any resulting damage would not be covered by your vehicle's warranty.

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### **Power Windows**





**Sedan Switches** 

**Coupe Switches** 

The power window switches for all the windows are located on the driver's door armrest. Each passenger door also has a power window switch for its own window. Press the front of the switch to the first position to lower the window to the desired level. Pull the switch up to raise the window.

## Window Indexing (Coupe and Retractable Hardtop)

This feature automatically lowers the window a small amount when the door is opened. Then, when the door is closed, the window will automatically raise fully.

# Power Window Initialize (Coupe and Retractable Hardtop)

After a power reconnect, such as battery replacement, the indexing feature will not function until the system is initialized. This procedure needs to be done for each individual window. Once power is restored, do the following:

- 1. Close the door.
- Raise the window by pulling the power window switch up.
- Hold the window switch up for two seconds after the window is closed. Release the switch. Then hold the switch up again for two seconds.
- Lower the window all the way down. Hold the switch down for two seconds.

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 Repeat the procedure for each window, including the rear quarter windows on retractable hardtop models, until all windows are initialized.

## **Express-Down Window**

The express-down feature lowers the window all the way without continuously pressing the switch. The switch(es) is labeled AUTO.

On sedan and retractable hardtop models, the driver's window has the express-down feature. On coupe models, both the driver's and front passenger's window have the express-down feature. The front passenger's express-down is activated by the driver's side switch only. Press the front of the switch all the way down and release it to express open the window.

To stop the window while it is lowering, pull the front of the switch up briefly.

## Window Lockout (Sedan Only)

(Window Lockout): This button prevents the rear passengers from using their window switches.

The window lockout button is located near the driver's power window switches. The driver can still operate all the windows and the front passenger can operate their own window with the lockout on. Press the right side of the switch to turn the lockout feature on. Press the left side to turn it off. The red part of the switch is visible when you have returned to normal window operation.

### Sun Visors

Swing down the visors to block glare. The visors can be removed from the center mount and swung to the side. The visors also have extenders that can be pulled out for additional blockage.

Your vehicle may have lighted vanity mirrors on the driver's and passenger's visors. When you lift the cover, the light will turn on.