

Kevin Kolvenbach, April 02,2002

Gentex Compass/Temp Mirror install:

This procedure describes the installation of Gentex compass/temperature mirror (model# GNTX-221) as it was installed on a 2002 Camaro (SS convertible), however would most likely apply to any 4th generation F-body.

Page references are made within this procedure to the “2002 Service Manual” for Camaro/Firebird Volume 3 of 3. A copy is not required for the procedure, however is a helpful reference. (PN for this manual is included in the part list.)

Please note if you are installing this mirror on a convertible equipped car, make sure the mirror you install does include MAP LIGHTS.

Gentex model GNTX-221 is an AUTO-DIMMING, DUAL DISPLAY COMPASS/TEMPERATURE MIRROR WITH (LED) MAPLIGHTS. The compass and temp are BOTH displayed (simultaneously) in the upper right of the mirror area. With the auto-dimming feature, the mirror darkens shade a bit when it senses light (ie. headlights). As per this procedure, you can wire your mirror to disable this feature when placing the vehicle in reverse. The maplights at the bottom of the mirror are LED's (where the stock mirror, they are lamps).

From the factory, Your Camaro(F-body) includes a “Delayed-Dimming” feature for the mirror maplights, where the maplights do not turn off immediately, ...they dim out over a period of about 10-15 seconds (my guess). The “Delayed-Dimming” WILL STILL WORK with this Gentex mirror, however the dimming is not as ‘smooth’ with the LED's, ...it's more of a stepped function. I only mention this so you know that this will occur, however it's not an issue to be concerned over.

We'll begin with the parts list, ...then the mirror pinouts, followed by the procedure itself.

Parts list: (Everything you need to do the job...)

PART DESCRIPTION	PART No.	Description/Function	
MIRROR, Rear-view	Gentex PN# GNTX- 221	Gentex Auto-Dimming, Dual display Compass/Temperature mirror with (LED) maplights. (Includes temperature probe and necessary wiring.)	
MISC:			
18 gauge wire			
Tap Splices			
Butt Splices			
Ty-wraps			
REFERENCES:			
HELM Service manual set (for 2002 Camaro/Firebird)	#GMP02F	A complete set of (3) books. (Book 3 of 3 was primarily used for this install)	
Mito Corporation		Distributor of Gentex mirrors	

		http://www.mitocorp.com 1-800-433-6486	
Gentex Corporation		Mirror manufacturer http://www.gentex.com	

Gentex Mirror wire connections:

Mirror Pinout comparison- Factory vs. Gentex:

Gentex Dual-display Compass/Temp. NVS rear-view mirror with maplights(Model #GNTX-221)

Pin#	Factory OEM Mirror	Gentex Comp/Temp Mirror	Wire color	Comments
1	No Pin	Ignition	Your choice	Connect to ignition
2	GROUND	GROUND	Black	Same as factory
3	No Pin	Reverse over-ride	Your choice	Connect to backup lamps
4	No Pin	Temp +	Black	To temperature probe
5	No Pin	Temp -	Black	To temperature probe
6	Door Switch	Door Switch	White	Same as factory
7	Battery (12V)	Battery (12V)	Blue	Same as factory

(Refer to service manual Page 8-220 for factory rear-view wiring if desired.)

Pin#1: Ignition – Powered when ignition is in the ON position

I tapped to Pin#9 (yellow wire) at radio (RE: P.8-448) only because I was also installing power antenna. Ignition connection can be picked up at an alternate location such as the fuse panel.

Pin#2: Ground – Ground

Since this is the same as the factory wiring, you can utilize the wire from the factory mirror.

Pin#3: Reverse Over-ride – Connected to reverse lights. To disable NVS when car is put in reverse when backing up. (Turning off NVS allows better visibility)

Manual Trans: Tapped to Pin H (light green wire) on connector C220 (located behind passenger side kick panel). NOTE: Ref service manual – (P.8-91 for C220 location), (P8-150 for C220 pinouts), (P8-218 for backup circuit detail). (Ref. Picture below for detail as well)

Automatic Trans: My car was a manual so I didn't wire this, but for those with automatics, you can tap into Pin F (light green wire) on connector C400 (located on the driver side of rear compartment area). I haven't been able to chase the wiring down to locate a closer point than this

to tap into. I believe C400 pin F comes from the Neutral Safety Position Switch (PNP) Pin D (re:P8-218) in service manual, ...however have not yet confirmed.

NOTE: Ref service manual – (P.8-107 for C400 location), (P8-157 for C400 pinouts), (P8-218 for backup circuit detail). (Ref. Picture below for detail as well)

Pin#4: Temp. + -Temperature probe +

Pin#5: Temp. - - Temperature probe –

These wires need to be run through the firewall to the temperature probe.

I mounted the temp. probe inside the left side grill area where it was clipped to the metal bumper support. I opted to drill (and grommet) a hole just above the wiring block going through the firewall on driver's side. There are other areas you can pass through the firewall such as a grommet on the right side of the firewall just below the ECM location.

Pin#6: Door switch – (Normally open) ...closes when car door is open OR interior dimmer switch is turned for interior lights on. AND has a timed/delay dim off after door is closed. (acts as a switched ground.)

Since this is the same as the factory wiring, you can utilize the wire from the factory mirror.

Pin#7: Battery – Battery connection, ...always 12V. To supply voltage for map lights when key is NOT in ignition.

Since this is the same as the factory wiring, you can utilize the wire from the factory mirror.

Start of Procedure:

Before you begin, remember to DISCONNECT THE BATTERY NEGATIVE CABLE!!

Begin by removing the necessary interior panels:

You will need to remove, both sun visors; left and right pillar post trim; upper header trim; passenger side lower dash trim; and passenger side kick panel.

Removal of the panels in these areas will allow routing of the necessary wiring to connect your mirror.

Mirror Wiring:

Wire as described in the table/sheet above.

Some notes from the install:

Connector C220 layout (for reverse over-ride wiring on MANUAL trans):

Location: This connector is located just above the passenger side kick-panel and passenger side lower dash trim. There are two large connectors there, ...C220 is the forward most of the two.

K	J	H	G	F
A	B	C	D	E

Layout: (Re: P8-150 from service manual)

- A. Wire color = TAN
- B. Wire color = GRY
- C. Wire color = PNK
- D. Wire color = PPL
- E. Wire color = BLK/WHT

- F. Wire color = ORN/BLK
- G. Wire color = BRN
- H. Automatic: Wire color = ORN/BLK (Neutral Safety Switch signal)
Manual: Wire color = LT GRN (Backup lamp supply voltage)
- J- Wire color = YEL/BLK
- A. Wire color = DK GRN/ WHT

Connector C400 layout (for reverse over-ride wiring on AUTOMATIC):

Location: This connector is located on the left side of the rear compartment area of the car, ...C400 is basically your rear wiring connector in the rear compartment. (NOTE: Pin F is the same wire by the way that the manual trans reverse lights use.)

F	E	D
A	B	C

Layout: (Re: P8-158 from service manual)

- A. Wire color = LT BLU
- B- Wire color = RED
- C- Wire color = BRN
- D- Wire color = YEL
- E- Wire color = DK GRN
- F- Wire color = LT GRN (Backup lamp supply voltage)**

End of Procedure.

...Thanks, Kevin Kolvenbach (aka "RAGSS")