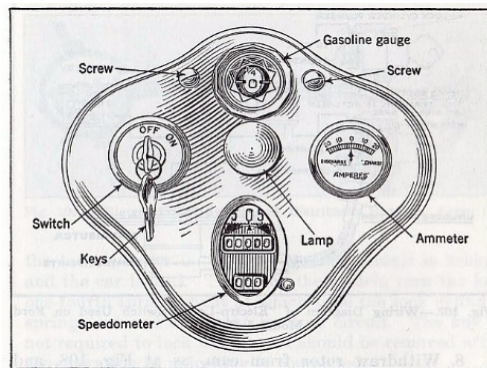


# Model A Instruments and Controls



Area 6 Judging Standards  
2014 MAFCA National Convention  
Gary R Brown  
Lone Star Model A Ford Club  
Georgetown, Texas

# Judging Program

- Refers to Model A Restoration Guidelines & Judging Standards
- Guidelines result of long research by MARC and MAFCA members
- Attempt to define appearance of typical 1928-1931 Ford as driven off assembly line
- Cars were manufactured for sale not the Guidelines – conditions changed daily in factory
- Allows for authentic Ford accessories and safety items
- Standards originally published 1989, revisions 1994, 1997 and 2011

# Judging

- Defined as – measuring each entry against uniform standard of authenticity and quality of restoration, not other entries
- Variance allowed if supported with evidence to support the original feature, part or item.
  - Need history of vehicle
  - Supporting Ford documentation
  - Applies only to that vehicle
  - Variance requested in writing six months prior to a National event
  - Variance approval documents must be displayed in vehicle during judging
- Judges expected to demonstrate untarnished qualities of skill, impartiality, and thoroughness

# Judging Classes

- MARC

- Restored Class (Blue Ribbon)
  - Original as came from factory
- Original Unrestored Class
  - Could receive blue ribbon
  - MARC of Originality award if meet mandatory requirements & at least 250 points
  - Can request waiver of mandatory tour 30 days prior to event
- Touring Class

- MAFCA

- Restored Class (Blue Ribbon)
  - All 14 points and original as from factory
- Original Class (White Ribbon)
  - Unrestored
- Touring Class (Red Ribbon)
  - Allows for comfort, convenience and safety modifications
- Modified Class (Green Ribbon)
  - Stock bodies registered for street use
  - Open wheel speedster or race track cars

# Instruments and Controls

Areas covered

- Instrument Panel
- Ammeter
- Speedometer
- Instrument Panel Light
- Ignition Switch and Keys
- Gas Gauge and Tank
- Carburetor Adjusting Rod (Choke Rod)
- Gear Shift Lever
- Hand (Emergency) Brake Lever

# Instrument Panels

	1928	1929	1930	1931
<u>1928-E1930</u>				
Smooth Panel	Oct 27- Jan 28 - Rounded Top, line encircles panel, lower holes not dimpled, butler nickel plated			
Oval Speedometer	Feb 28- Sep 28 - Clipped at top , line encircles or fades out at top			
	Jul 28 – Jun 30 - Stamped Lower Holes			
	Dec 29 – Jun 30 - No trip reset notch			
<u>1930-1931</u>				
Ribbed Panel	Jun 30 – end - Steel, Flange around base			
Round Speedometer	Jan 31 – Feb 31 – same but brass			
	May 31 – end – Steel, no flange at base, line around ribs			

# Instrument Panels

- Smooth panel with oval shaped speedometer and centrally mounted instrument panel through June 1931
  - Four Variations
    - Beginning through January 1928
      - Flange encircling panel where meets gas tank
      - Machined counter sunk holes for lower mounting holes
    - February 1928-September 1928
      - Top rim clipped above gas gauge eliminating 1" section on flange at top of panel
    - July 1928 through June 1930
      - Same as second with stamped countersunk lower mounting holes
    - December 1929 through June 1930
      - Used with Northeast speedometer and did not have notch for trip odometer reset knob

# 1928-June 1930 Instrument Panels

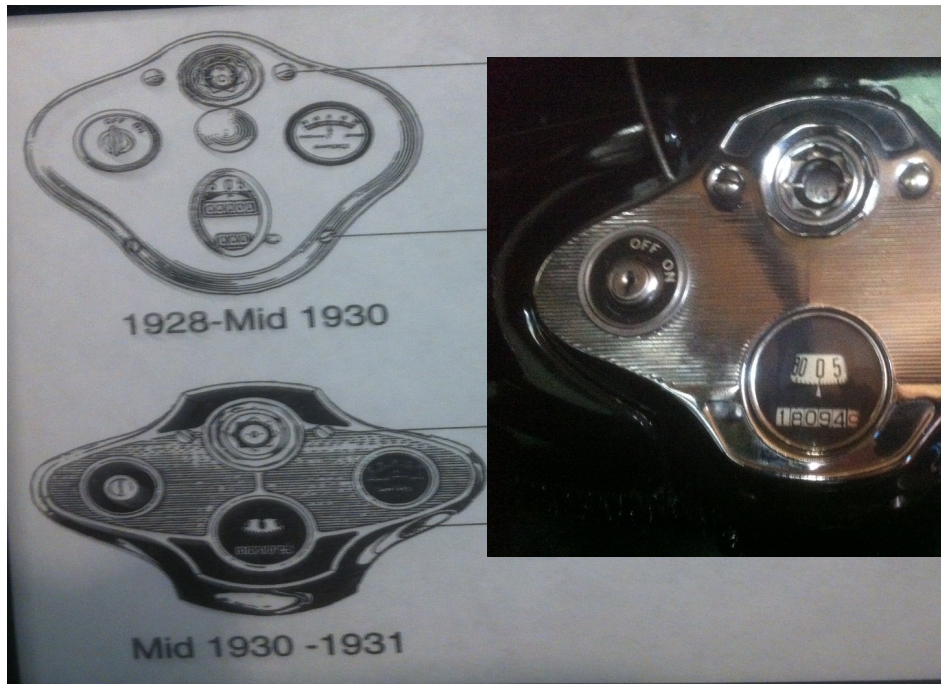
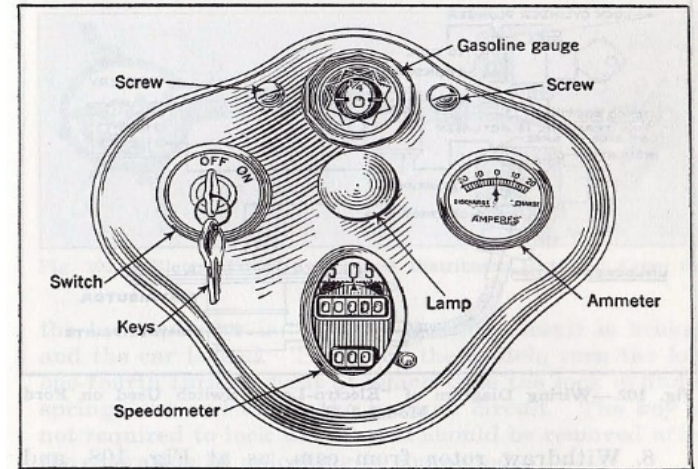
- Finish
  - Butler nickel (satin) finish
  - Used nickel plated oval head No 10-32 (#8 head) screws
- Town car had butler chrome finish starting August 1929



# June 1930 – End of Production Instrument Panels

- Elongated horizontally with ribbed pattern on face and round speedometer
- June 1930 – August 1930 Steel and finished in bright nickel
- September 1930 to end – butler nickel used on 50% production
- January – February 1931 – optional brass panel
- May 1931 to end – distinct line above ribbed area
  - Not flared at perimeter where it met tank
- Recessed area above gas gauge and below speedometer on ribbed panels painted satin black
- Upper mounting screws had special high dome No. 12 oval head

# Instrument Panel Pictures



# Ammeter

- Zinc or aluminum face with scale 20 – 0 – 20
- Lettering bare bright aluminum or zinc
- Background satin black (black nickel plate finish)
- No Ford script
- Bezel bright nickel plated brass
- All had raised bead next to glass face
- Case behind pointer satin black
- Lies flat against instrument panel

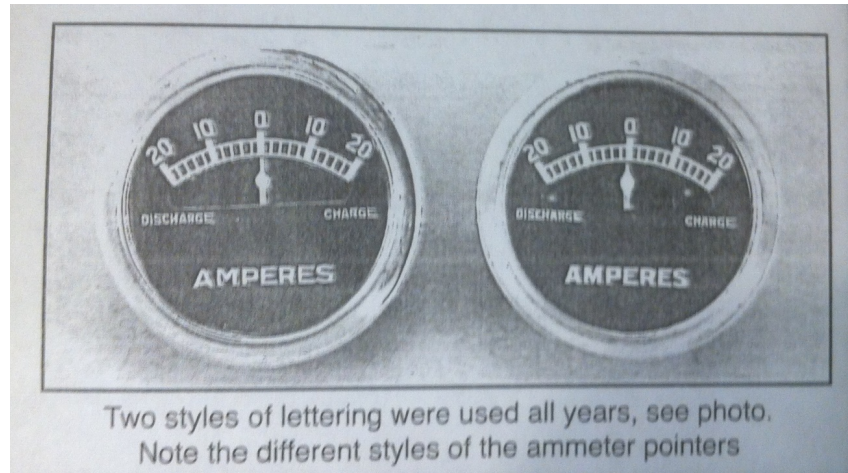
# Ammeter

- To measure charge
  - Turn engine off and read with lights on
  - Turn engine and lights on and read
  - Difference is amperage of charge going to battery
- Loose wire detected by placing hand over ammeter and if hot have poor connection
  - Same effect of loose ammeter terminal as poor battery connections
- Discharge with all electrical turned off indicates cutout on generator stuck on closed or defective battery
- Zero reading is defective ammeter, cutout relay or generator

# Ammeter

- Ignition problems
  - When starter spins needle should fluctuate about two amps on discharge
  - If no fluctuation or discharge, key may be turned off or breaker points failed to close contacts
  - Possible troubles include loose or broken connections at ignition switch, ignition coil terminals, switch cable where connects to distributor or broken pig tail wire inside distributor
- Repairing
  - Always disconnect battery as short circuit in wiring behind instrument panel could damage ammeter wiring
  - If fuse block installed remove fuse before working on wiring

# Ammeter Pictures



# Speedometer

	1928	1929	1930	1931
Oval	Oct 27 – Jun 30 – Stewart-Warner 2 models with white pointer			
	Apr 29 – Jun 30 – Waltham white pointer			
	Dec 29 – Jun 30 – Northeast red pointer			
Round	Jun 30 – End – Stewart - Warner			
	Jun 30 – Dec 30 - Northeast			
	Jun 30 – End - Waltham			

# Speedometers – Oval Faced

- Until June 30 Oval faced
- All oval but Northeast had trip odometer reset by knob protruding thru notch by face
- Reset dull nickel
- Stewart-Warner to early 28 had 5/32" to 3/16" wide rim and wide numerals
- Jan 28 – Jun 30 1/8" wide rim and narrow black numerals except 1/10 which was red.
- Northeast 0-80 mph, all others 0-75 mph



# Trip Indicator

- To reset
  - Pull reset rod out to engage wheel gear
  - Turn clockwise to reset indicator wheels to “000”
  - Never engage while car in motion – will strip reset gear
  - Reset only when stopped

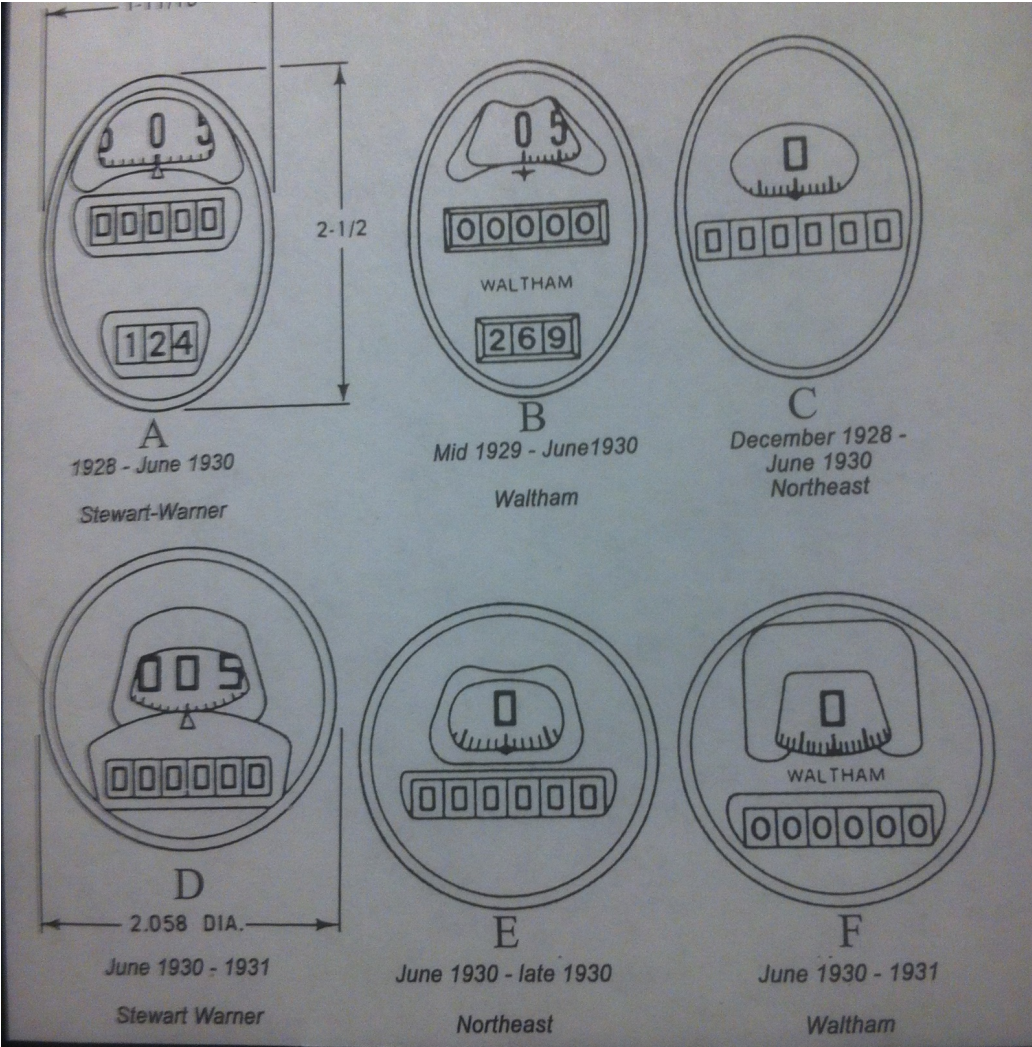
# Speedometer Repair

- Most failure due to dried up lubrication and worn gears
- Special tools needed to disassemble inner workings
- Purchase of replacable (rebuilt) unit best
- If want to repair suggest referring to Les Andrews “Model A Mechanics Handbook”

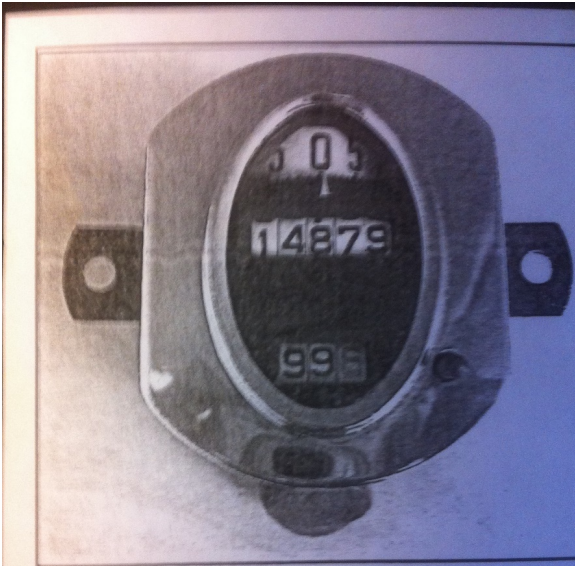
# Speedometers – Round Faced

- Introduced with new instrument panel June 1930
- All numbers black except 1/10 which was red
- Pointer was red until March 1931 and white thereafter
- All had satin black faceplate with bright nickel bezel

# Speedometer



# Early Speedometers

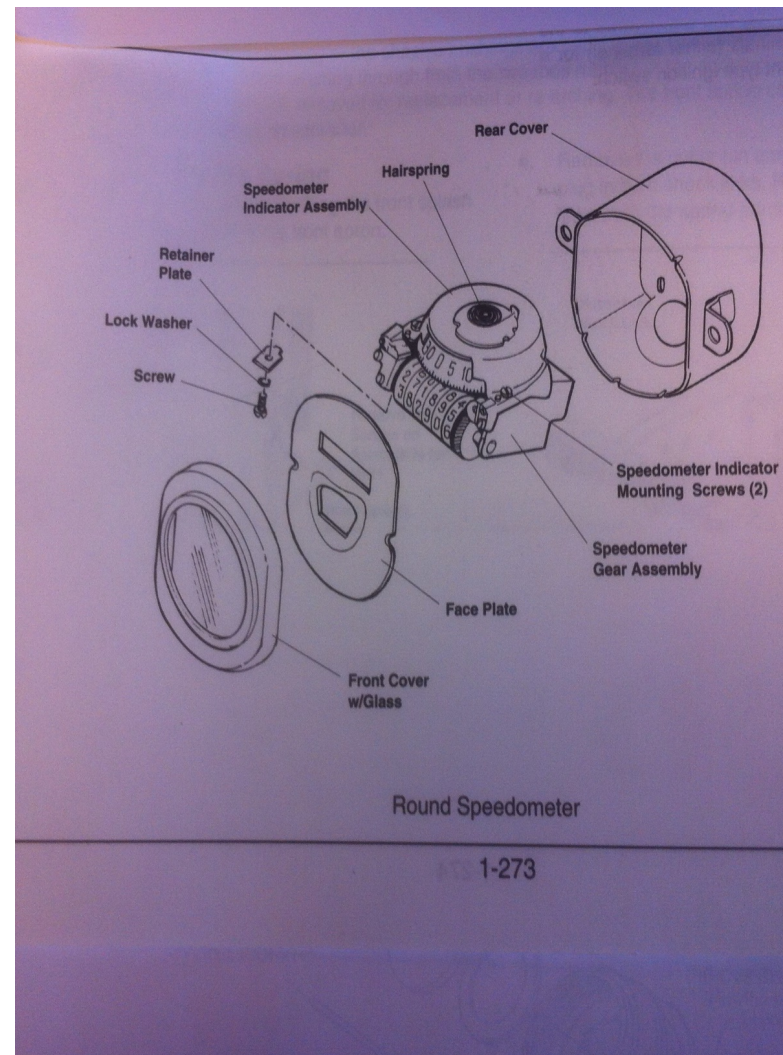
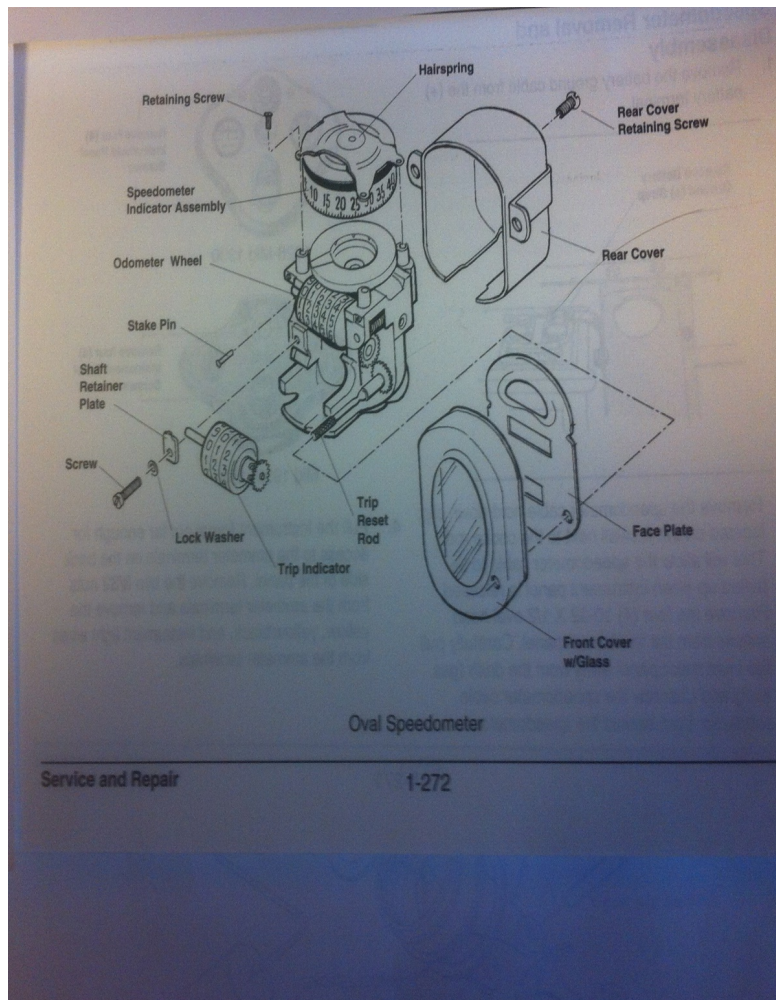


ly 1928 speedometer with bold numbers and wi



Alternate design instrument panel with  
Northeast speedometer used from  
December 1929 through June 1930

# Speedometer



# Instrument Panel Light

	1928	1929	1930	1931
Center of Panel	Oct 27- Jul 30 Bright Nickel			
Under Dash Panel	Jun 30 – End Unpolished Nickel			

# Instrument Panel Light

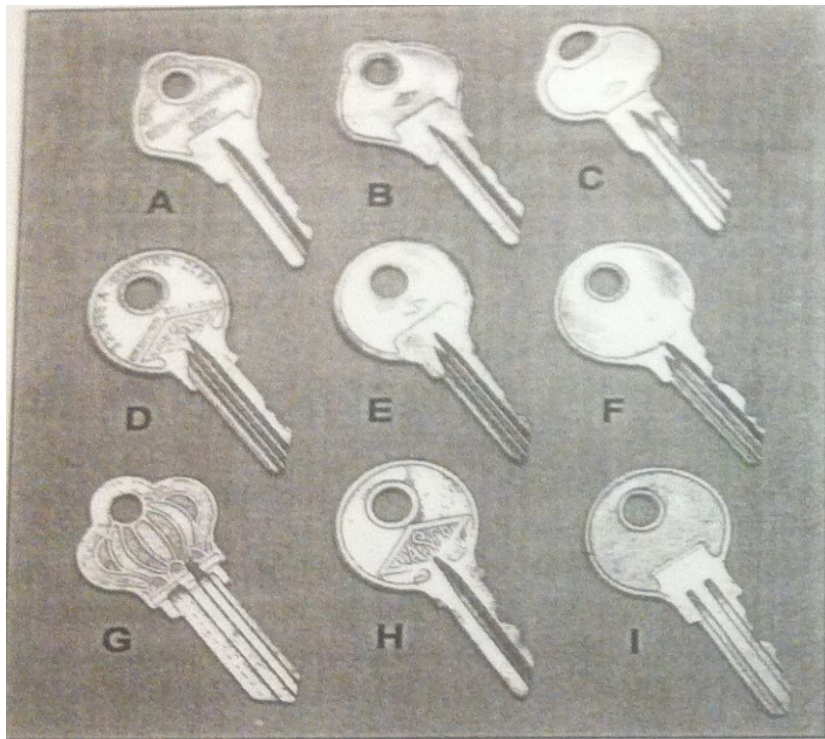
- Oval Speedometers
  - Mounted in center of panel
  - Bright nickel plate
- Ribbed instrument panel
  - Lamp with integral switch mounted under dash panel (front belt rail molding)
  - Unpolished nickel plate finish
  - Cadmium plated or zinc plated bracket
  - Open model brackets 3" long, closed models 2 7/16" long
  - Cabriolets and convertible sedans used closed model lamp
  - Spiral metal armored wire fit in small slot on top edge of ribbed panel
  - All used 3 cp bulb



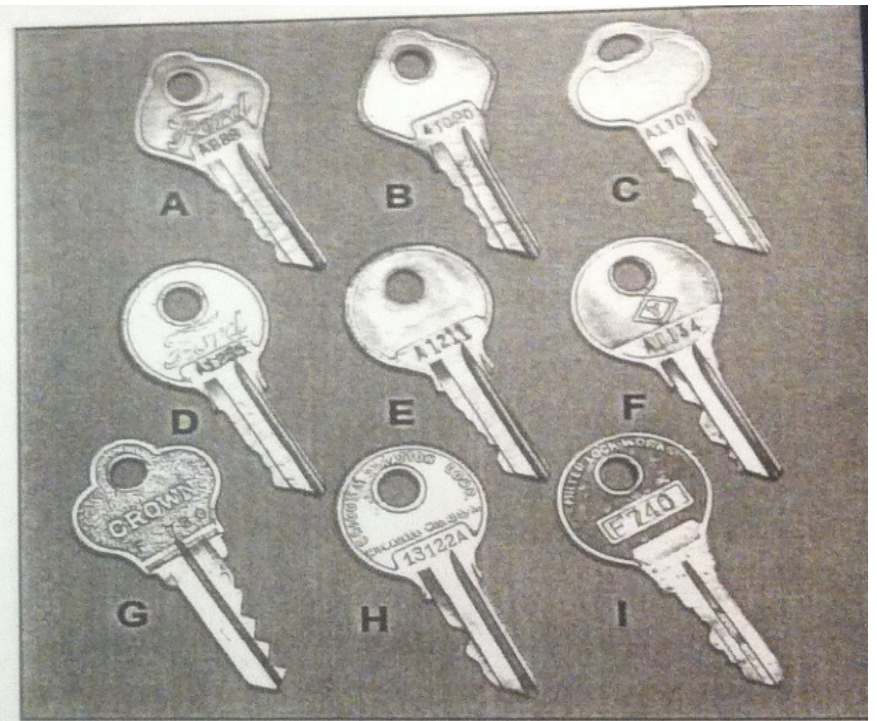
# Ignition Switches and Keys

	1928	1929	1930	1931
Oval Panel	Oct 27 – Jun 30 - type Key A801 – A1050			
Round Panel	Jun 30 – Oct 30 - type Key A801 – A1050			
Round Panel	Aug 30 – End – type Key A1301- A1550			

# Ignition Key Pictures



Original keys (reverse side)



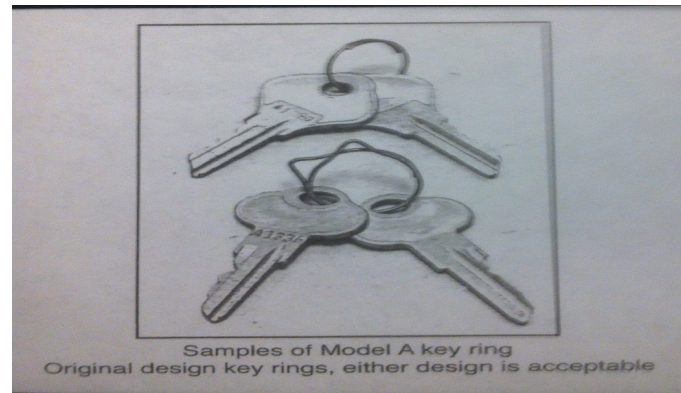
Original keys (numbered side)

# Keys

- All vehicles had two keys for each lock
- Door and rumble/deck did not always match
- Victoria in Nov 30 had interchangeable locks with small hole at edge of lock cylinder. Ignition and door were same with 2 keys for car
- Dec 30 extended to De Luxe Delivery, Special Delivery, and Panel Deliveries
- After March 31 all vehicles had same for all locks including spare tire

# Keys continued

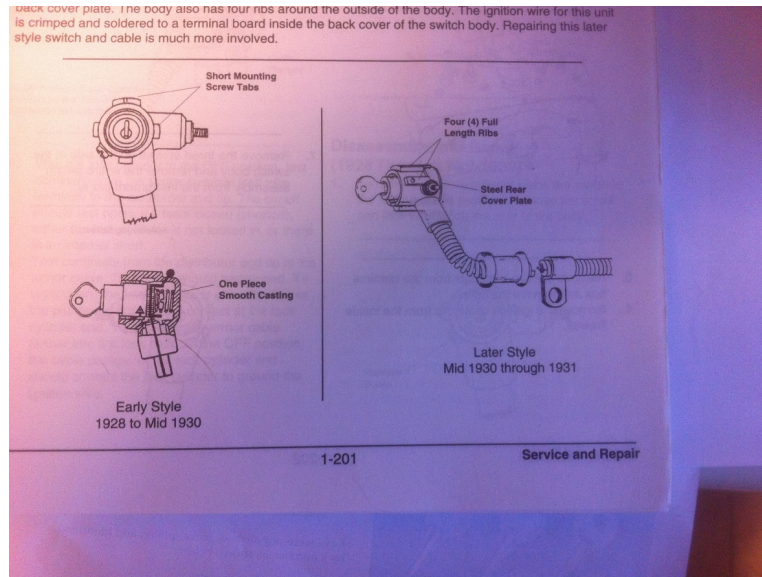
- Crown keys used on some rumble/deck handles and door handles
- Crown discontinued when switch and door keys matched
- Digit system keys and miller keys used in separate door locks until Dec 30
- Two types of unfinished 5/8" wire key rings used in all years



# Ignition Switch

- Pop-out ignition made by Electrolock and parts not interchangeable between types
- 1928- mid 1930 style used with smooth instrument panel and oval speedometer
- Solid smooth casting on body; cable is hand tight press fit into body
- If moves 1/8" engine stops so must keep cable bolted to head stud
- Engine heat destroys insulation in armored cable which causes short
- Mid 1930-31 had four ribs on outside of body, wire crimped and soldered to terminal body – repair more involved

# Pop-out Switches



# Gas Gauge Openings

	1928	1929	1930	1931
Gas Gauge Openings				
	Oct 27 – May 28 – Vertical oval opening, flat lens			
	Apr 28 – Sep 29 – Horizontal oval opening, magnifying/flat lens			
	May 29 – Oct 29 – Round opening, raised flat lens			
	Nov 29 – End – Round opening, flat lens			

# Gas Gauge and Tank- Judging

- Judge from inside vehicle
- Look for leaks around steering column bracket, gas gauge, or shutoff valve
- Gently rock vehicle to see if gauge works
- Should be no nicks or tool marks on gauge mounting rings



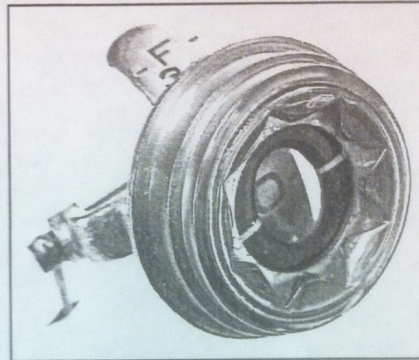
# Gas Gauge History

- Early gauge until May 28
  - Vertical oval opening with flat lens
  - Nickel plated steel casting
- April 28 redesigned
  - Aluminum die casting
  - Nickel plated on exposed face – not used after June 28
  - Magnifying glass lens with horizontal oval opening
- May 29 round gauge opening introduced
  - Initially round glass had flat raised center
  - Changed by Nov 29 to flat glass

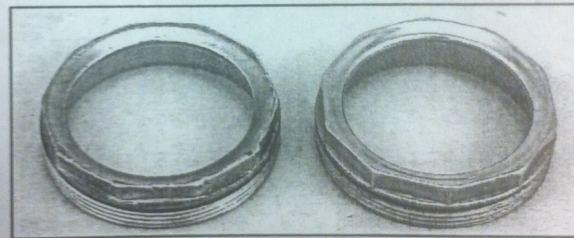
# Gas Gauge History

- Face plate satin black with horizontal white nickel line across center
- Some models in Mid 31 – end had gold line
- Line was  $1/32$ " wide thru May 29 and  $3/64$ " thereafter
- Numerals were black except for early 1928 when "0" and "F" were brick red and slightly larger
- Secured into gas tank with nickel plated brass outer nut
- Nut originally  $7/16$ " thick with conical pocket
- Nut changed Jan 28 to  $15/32$ " thick with inside edge rounded with  $1/32$ " radius
- February 28 pocket changed from conical pocket to pocket with radius

# Gas Gauge Pictures



Early design gas gauge used from the beginning of production through May 1928



Gas gauge outer nut: first style with conical pocket, 7/16" thick (left); later style with radiused pocket 15/32" thick (right)

# Gas Tanks

- Earliest had stamped groove where wiper wire passed under top of instrument panel and flat bracket for choke rod
- Dec 27 stamped groove eliminated and choke rod bracket changed to forging
- Aug 28 – 1929 forged choke bracket put higher on tank for longer choke rod
- Beginning – Aug 28 steering column attached to forged integral support under tank
- Aug 28 changed to casting (commercial vehicles used through June 30)

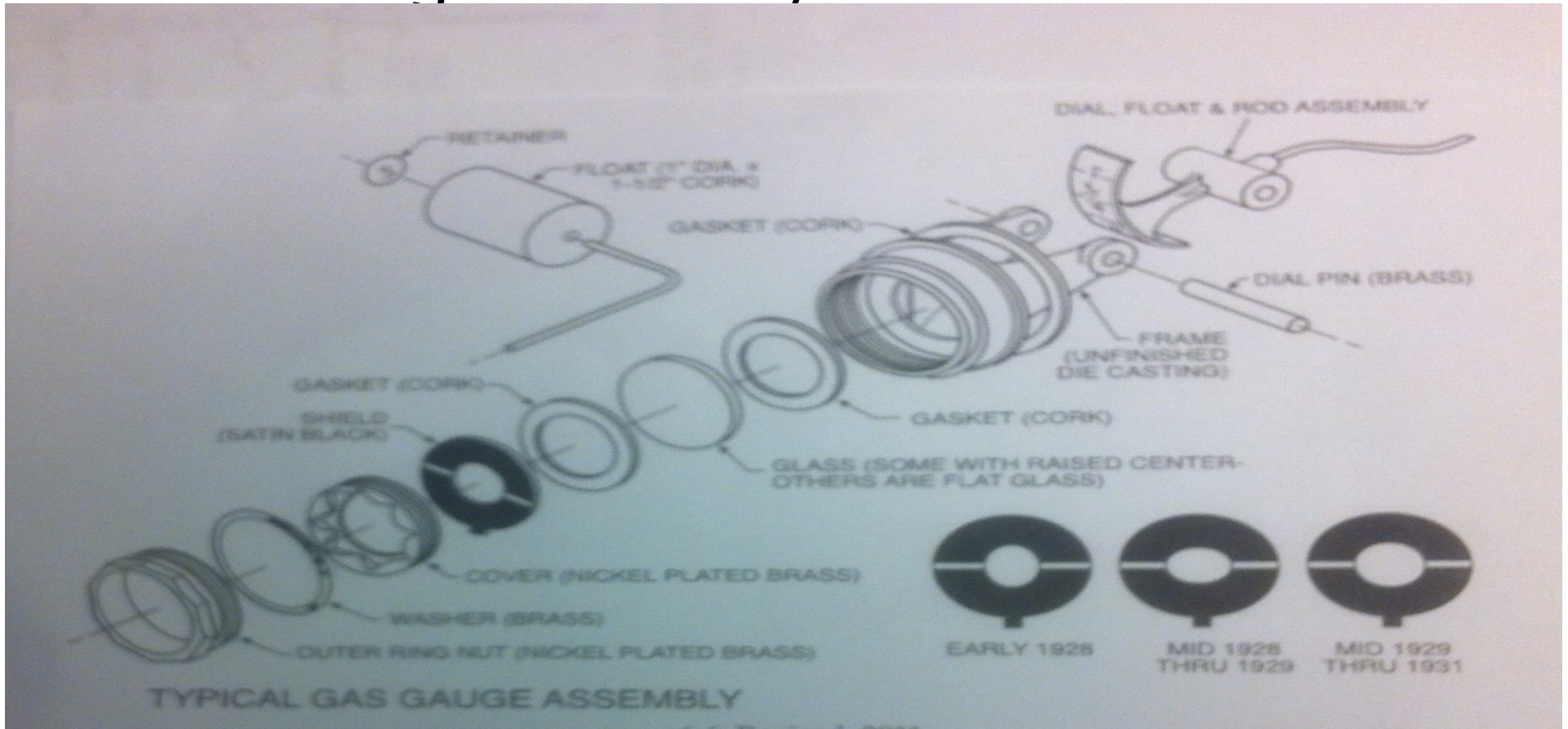
# Gas Tanks

- 1930 passenger vehicles used larger tank
- Used with oval instrument panel
- Had two embossed flat areas – for steering column support bracket and choke rod bracket
- Jun30 redesigned for round speedometer instrument panel
- Steering column support had angled flange to fasten to tank
- May 31 changed to support bolted to body behind dash panel
- Lower steering column support and tank brackets judged Area 8

# Gas Gauge

- Gage is mechanical float indicator
- Cork float attached to end of 14" wire that functions like teeter totter with float at one end and indicator dial at other
- Level indicator can be adjusted by bending the float wire up or down to change reading
- When installing clean all old gasket material, use gas resistant sealant, and put light coat of oil on brass washers to prevent assembly from turning when outer ring tightened
- Full is 10 gallons in 1928 and 1929 tanks and 11 in 1930 and 1931
- F reading has room for 1 ½ gallons if poured carefully
- 0 (zero) still has safety of ½ gallon in tank

# Gas Gauge Assembly



# Choke Rods

	1928	1929	1930	1931
	Oct 27 – Nov 27 – 20 11/16" Rod, Smooth knob			
	Nov 27 – Aug 28 – 21" Rod, Smooth Knob			
	Aug 28 – Jan 30 – 25" Rod, Knurled Knob			
	Jan 30 – End, 27 ½" Rod, Knurled Knob			



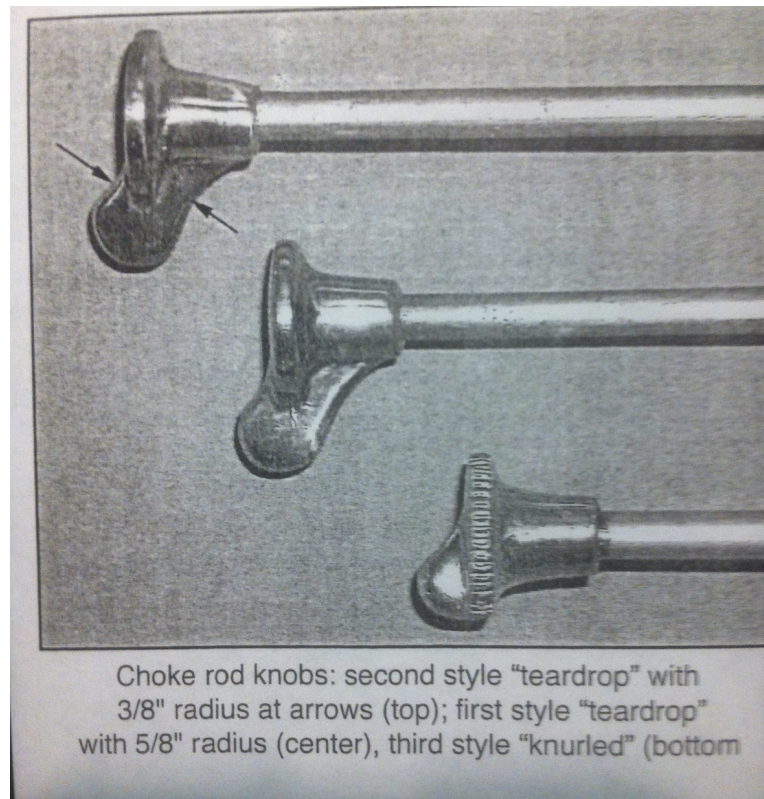
# Carburetor Adjusting Rod (Choke Rod)

- Beginning to Nov 27
  - Exposed rod length 20 11/16", smooth tear drop style knob
  - Knob included wing with 5/8" radius
- Nov 27- Aug 28
  - Exposed rod length 21", used tear drop style knob
  - Knob included wing with 3/8" radius
- Aug 28 – Jan 30
  - Exposed rod length 25", used knurled style knob
  - Zinc chrome plated finish optional
- Jan 30 – End
  - 27" rod

# Choke Rod Repair

- If rod hangs
  - Reproduction grommets for gas tank bracket made of soft rubber with too small hole
  - Can drill larger and with talc lubricant solve it
  - Kits include a grommet for hole in firewall but should not use
  - Replace with leather washer on engine side with floorboard screw washer as backup
  - Can use old leather belt to make replacement

# Choke Rod Picture



Choke rod knobs: second style "teardrop" with 3/8" radius at arrows (top); first style "teardrop" with 5/8" radius (center), third style "knurled" (bottom)

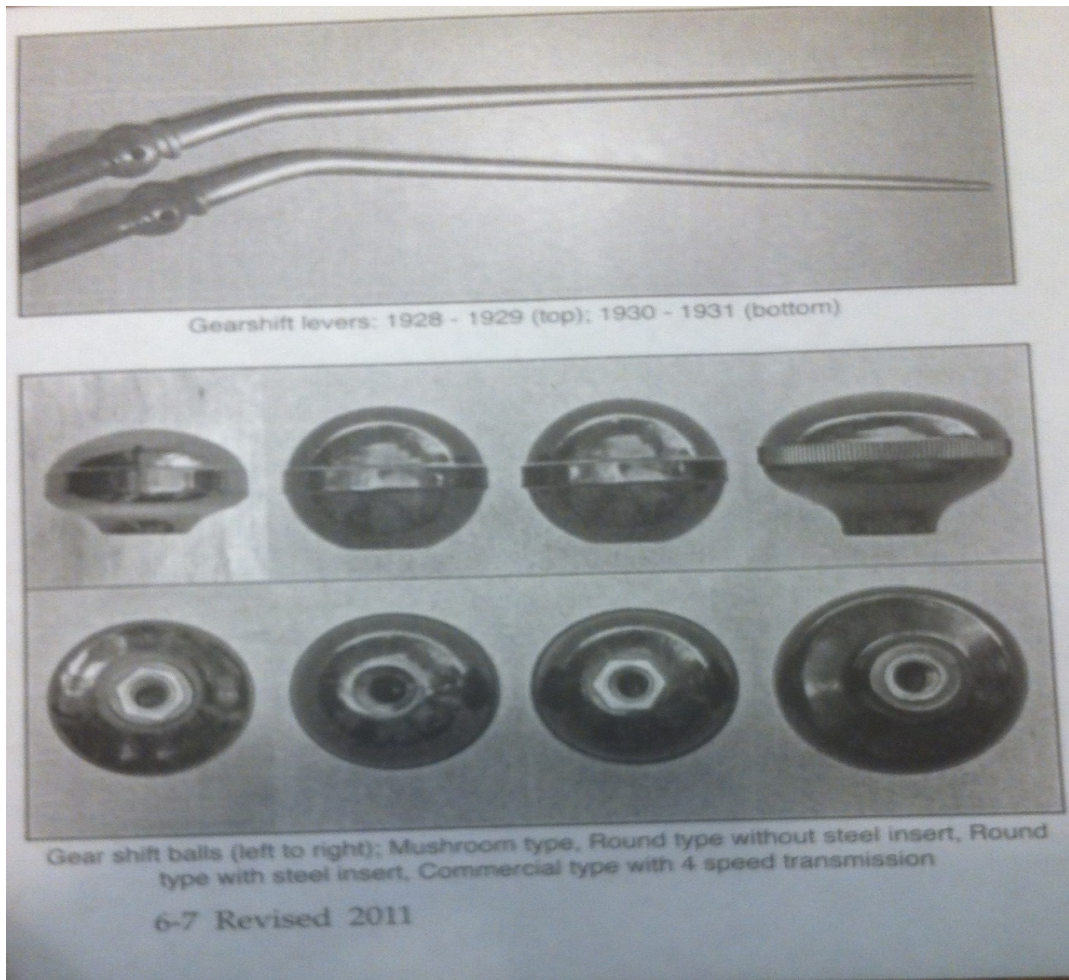
# Gear Shift Lever

- Oct 27 – Dec 29 lever inclined rearward at 20 degree angle
- Jan 30 increased to 28 degrees for larger gas tank clearance
- Either tank acceptable in early 1930 vehicles
- Lever plated with butler nickel with circumferential grain pattern
- Lower bell plated cadmium, zinc, bright nickel or butler finished nickel

# Gear Shift Lever Balls

- All were black made of Fordite, a hard Bakelite type material
- Round ball with  $\frac{1}{4}$ " raised horizontal band around center was used originally
- Replaced with mushroom shaped ball used until April 28
- Round ball reinstated April 28 and used until end
- Hex shaped threaded metal insert molded in ball to reduce stripping of threads in ball
- Jan-Nov 30 all balls produced without insert

# Gear Shift Levers and Ball Pictures



# Hand Emergency Brake Levers

	1928	1929	1930	1931
	Oct 27 – Jun 28 - Squeeze type mounted on left side			
	Mar 28 – Dec 28 - Squeeze type mounted in front of gearshift			
	Jan 29 - Jul 29 – Push button type, mounted front of gearshift			
	Jul 29 – End – Push button type, mounted right of gearshift			

# Hand (Emergency) Brake – Squeeze Type

- Squeeze type
  - Inside left cowl until June 28
  - March 28 – Dec 28 forward of gear shift lever
  - Original aluminum rivet peened over aluminum washer used to attach actuating lever to squeeze lever
  - Washer eliminated Sep 28
  - Handles were butler or unpolished nickel on lower portion and bright nickel on grip
  - Sector was unfinished steel
  - All have spring loaded pawl rod thru middle of handle that operates a pawl at bottom of handle for setting and locking brake.



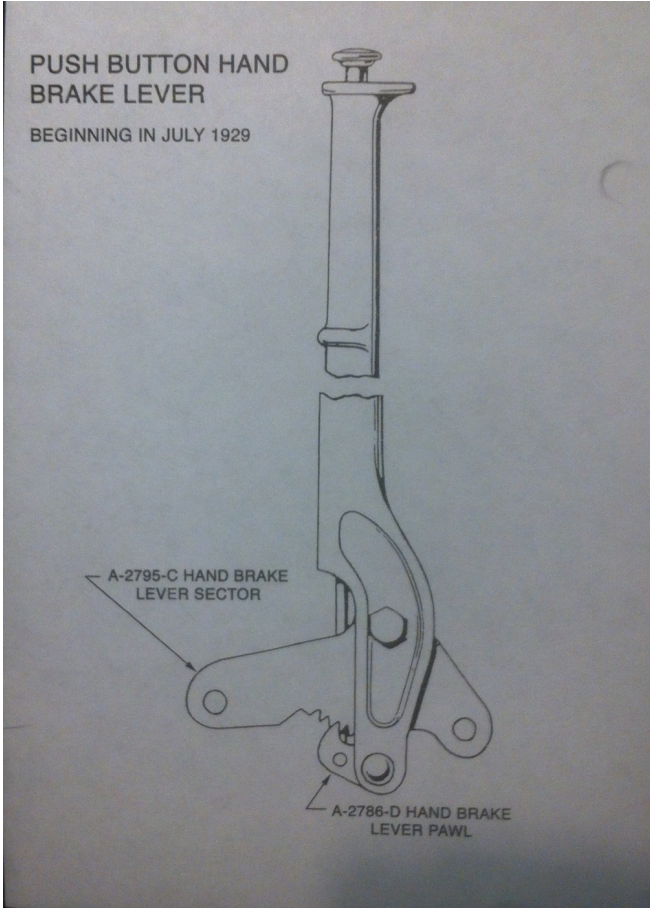
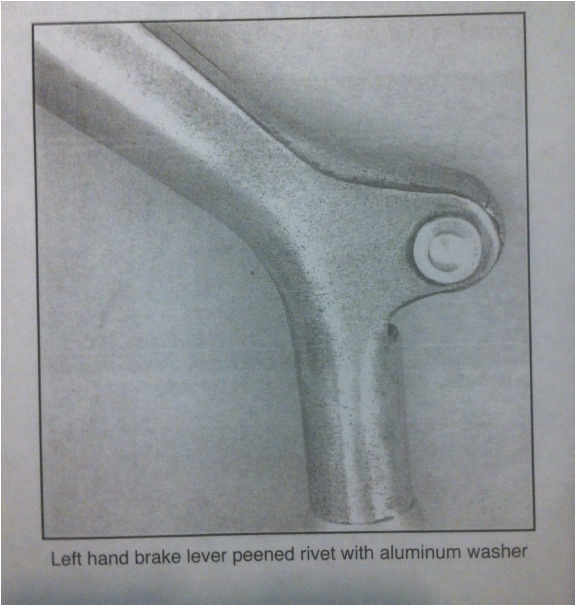
# Hand (Emergency) Brake Push Button Style

- Push Button
  - Jan – Jul 29 mounted forward of gear shift
  - Released Jul 29 new design on right of gear shift
  - Attached to  $\frac{1}{4}$ " sector with thin headed cadmium plated  $\frac{3}{8}$ " bolt with unfinished castle nut
  - Mid 30, lever sector changed to  $\frac{5}{16}$ " approximately
  - Some units had pawl shaped hole stamped in center
  - Sector and pawl unfinished steel
  - Handles butler or unpolished nickel on lower portion and bright nickel on grip
  - Town Cars after April 29 had butler chrome plating

# Emergency Brake Judging & Repair

- All models
  - Smooth ratcheting
  - Holding
  - Quick release
  - No side to side play of lever
  - Should lock at third notch if properly adjusted
- Repair
  - Return spring in handle can be replaced if weak or broken
  - Bottom pawl can be replaced when worn
  - Pawl rod and button can be removed for re-plating of handle
  - Use new thin head aluminum rivet for squeeze grip when assembling
  - If pawl rod vibrates against lever tube use lightly oiled felt washer to stop rattle

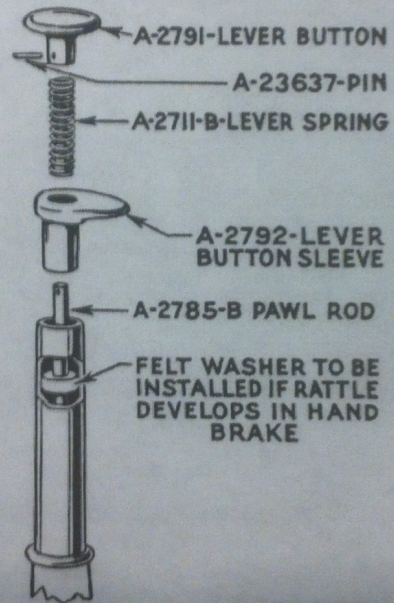
# Brake Lever Pictures



# Hand Brake Quick Repair

From Model A Service Bulletin, April 1929)

## CORRECTING NOISY HAND BRAKE LEVER



EMERGENCY HAND BRAKE  
LEVER ASSEMBLY

Fig. 680

# Thank you



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