

# 1929-1931 PIERCE-ARROW JUDGING STANDARDS SEMINAR

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*Special thanks to Merlin and Jane Smith for hosting this event and to  
Chris Diekman (IA) for his assistance on 1931 Pierce-Arrows*

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*The car used as an example for the seminar is a 1931 Model 43 Convertible Coupe owned by Merlin Smith*

## OVERVIEW OF TOPICS:

All Pierce-Arrows were essentially “custom built” on an assembly line. 1929 was Pierce-Arrow’s largest year of production. There were issues between the Pierce Marketing Department and Engineering and Sales Departments. The Marketing Department simply changed the year of a vehicle when sold, not realizing the problems caused in servicing the vehicle down the road.

The assembly line used up parts from 1929 on early 1930 models. Sometimes you’ll see 1930 parts on late 1929 models. Mid 1930 year changes resulted in more confusion when judging Model C’s. Some late 1930 models have 1931 standard parts. Late 1931’s even used a few 1932 parts. Salon cars have many differences from Pierce standard models. 1929 Model 143s have many more standard trim features than the Model 133s. 1930 Model A’s & B’s had standard features that Model C’s did not offer. 1931 Models 41, 42 and 43’s continue to interchange parts with the previous models. As you can see from the above, 1929 through 1931 model years can be very confusing as to what is correct.

## I. FREE POINTS

- A: Have a UL approved fire extinguisher.** The lack of a fire extinguisher is an automatic disqualification.
- B: Working Lamps:** All lamps must work both inside and out including stop and backup lamps for both safety and points. Dome lights, dash lights should work as well. Gauges, horns, wipers, etc. will be checked. All accessory lights if installed such as Pilot Rays, Trippe, and spotlights must work. Wind your clock if working. We look for correct lighters but don’t test them. (Hot Head lighters were used in front and Cats Eye lighters were used in the rear vanities).
- C: Fasteners:** Slotted Screws only. No Phillips head screws should be visible. Oval head screws were used in most all visible locations. Flat head screws were typically only used in out of view locations. Bolt heads should have no head stamp. No pop rivets should be used.
- D: Wiring:** Use only cloth covered. No plastic wire or crimped plastic ends. No plastic tape. Use a cloth wrapped end at soldered terminals.
- E: Do not use rubber valve stem caps on the tires.**

## II. BUMPERS

- A:** 1929 and all 1930 Models A, B and C used 2 bevel bars or 2 rounded bars on the front and rear. 1931 Model 41 and Salon cars used a single bar with rounded edges. Center clamps are used on all years and models except Salon and Model 41. Make certain the bumpers match between front and rear. In current PAS judging, we do not deduct points for the rounded or beveled bar bumpers being used between short wheelbase models. The long wheelbase cars should have the larger bumpers. This is one of the areas where we find much intermingling of parts by the factory. The bumper clamp’s inside profile should match the bumper bar profile

### III. Grill shell, radiator and attachments

- A: Archers:** 1929 archer is helmeted and has grass on the base, not the plain base, that was used on Series 36. 1930 Archer should have grass on the base, helmeted as well. 1931 archer was the first use of the bare-headed archer. The base bolts onto the radiator cap. The arrow point has chrome squared edges on 1929 and 30 archers. The 1931 has a brass bow and arrow. Often the bow and arrow are chromed on the 1931 archers because they are not removable and get re-plated when the archer is re-plated.
- B: Front Radiator Louvers:** These were offered in chrome, black, or body color.
- C: Chrome** is used on radiator shell, crank hole cover and the attachment bolt. Shell lacing is riveted to the shell. Machine screws were not used. Machine screws do hold shell to radiator.
- D: Original radiator core material** was the diamond shaped honeycomb type for all years. The modern core material has vertical tubes. All cars were equipped with the Pines Winterfront on the louvers. The 1929 actuated thru the front of the top radiator tank, the 1930-31 used a rod that crossed the top of the tank.

### IV. Headlights

- A:** All 1929 & 1930 lenses were 9 1/4 inches outside diameter and the prism diameter was 8 5/8 inches. This outside diameter was used by many other car makers. However, the prism diameters were different than a Pierce. Non-Pierce brands were commonly 8 1/2 inches.
- B:** Early 1929s used McKeelite flat lenses. Late 1929 and early 1930's used Twolite flat lens in all groups. In mid-1930 Pierce went to Twolite convex lens till the end of the Model year. All 1931 Groups used Tiltray convex lenses of 9 13/16 out. The 1931 chrome clamp band changes to a one piece.



Early 1929 Flat McKeelite



Early 1929 Flat McKeelite stamp



Late 1929 & early 1930 Flat Twolite



Late 1930 convex Twolite



1931 TILTRAY



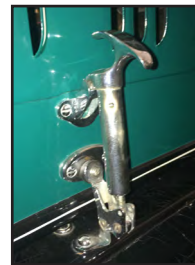
1931 TILTRAY

## V. PARKING LAMPS:

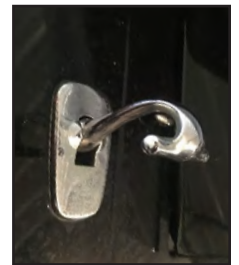
- A: 1929 and some early 1930 Model C's have small parking lamps with flat straight ribbed lens.
- B: 1930 A, B, and mid-year Model C's have larger parking lamps, with both flat and convex lens with a pattern the same as the Twolite headlights.
- C: 1931 has the same housing but with Tiltray convex lens.

## VI. Hood

- A: Louvers vs Doors for 1929-1930 - Due to custom orders both are commonly seen. 1929 143's all had doors, early 1930 Model C's all had louvers. Typically louvers were used on smaller cars - the 133's and the Model C's. 1930 Model A's and B's with louvers would have to be a custom order. 133's and Model C's with doors would have to be custom ordered. All 1931 Models had doors.
- B: Early and Late door opening knobs. All 1929s and early 1930s used knurled round knobs. Late 1930s and all 1931s used an oval knob resembling a football. All knobs used a small leather washer under knob to protect the hood paint.
- C: Hood corners used on early 1929s had only 2 rear corners. Later 1929s and early 1930s used 4 leather corners. Mid 1930s and all 1931s used 4 rubber corners (not reproduced at this time).
- D: All cars use a chrome center hinge which was riveted to top panels. Most used 4 chrome oval pads for the hood latch to press against. Some 1929's had no chrome ovals.
- E: 1929 and 1930's hood latches have two different lengths. This was intermingled between models. This also changes the location of pads and latch retainers drilled into the hoods. 1931s used a new "T over center" pull handle located higher on the side panels.
- F: All cars had a rubber faced center stop mounted on the splash apron in the center of the hood. These are often missing.



1929-30 Hood Latch



1931 Hood Latch

## VII. ENGINE

- A: All engine numbers are located on the driver's side block, top center under the cylinder head. The PAS roster contains information to decode the various year numbers. 1929 has a chain driven generator. The 1930 and 1931 has a belt driven generator. All hose clamps are double wire and no style of flat band is correct.
- B: Engine Paint Colors
  1. The Cylinder Head is black on all 1929 to 1931 cars.
  2. The blocks can be Battleship Gray or Black. Forest Green can also be found on complete engines, and has been found on 1920's Pierce engines as well. We don't know if this was an anomaly from the factory, a factory rebuilt engine or possibly an aftermarket rebuilt engine. However, this color has been found on completely original cars. Another possibility is that they may have used this color for promotional vehicles.
- D: The oil pan, fan hub, thermostat housing, water pump, starter, and generator were all black. Fan blades were polished aluminum for 1929 & 1930. For 1931, fan blades were black painted steel.
- E: Carburetors: 1929s were the Stromberg UU-2. Early 1930 Model C's came with U4 one barrel. Most of these were retrofitted with UU2s during 1930. The rest of the 1930s used UU2s. 1931s used the Stromberg UUR2. The 1929 air filter was a chrome pipe cut on a taper. The 1930 and 1931s used an "Airmaze" filter. The 1931 is larger than 1930 Models and has a snorkel pipe underneath facing forward. 1929, 1930 & 1931 have a breather pipe into the rear valve cover.
- F: The exhaust manifolds used on 1929s have a large hump at the front. The 1930 is straight, with larger heat riser box in center. The 1931 has an even larger heat riser that extends out the back with an automatic door. The heat riser spring end attachment changes in mid-1930 to distributor plate screw from the tower location.





**1929 Exhaust Manifold**



**1930 Exhaust Manifold**



**1931 Exhaust Manifold**

- G:** The fuel pump used in 1929s was the *AC Brand* "Model A". The 1930 uses next version AC pump with air dome changes. The 1931 uses a *Stewart Warner* pump.
- H:** Oil filters used on all models were the disposable Purolator brand. The 1929 is mounted vertically. The 1930 changes to a horizontal mount. The 1931 changed it's canister design. Repro canisters hiding a modern filter are now available. Feed lines are chrome plated. Under the hood, all vacuum, fuel and oil gauge lines are chrome plated.
- I:** Ignition: The spark plugs used were the "take apart" C-4 Champion. However we accept any black plug. No cadmium plated plug should be used. A brass hex cup was used all years between plug and wire. Plug wires were black cloth covered and lacquered. The 1930 parts book shows a rubber boot at plug. 1929 and 1930 A's & B's used distributor Delco 668E with the large cap and body. 1930 Model C used the Delco 652E with a much reduced cap and body size. 1931s used the Delco 660P all models
- J:** Head bolts: 2 different head bolt shapes were used. One for all Models except 1930 Model C which had a different head shape
- K:** Data tags were used - Delco on starters, generators, and the distributors. They were aluminum oval tags. The Pines Winterfront had a data tag on the louver thermostat also made of aluminum. A Pierce Arrow decal can be used on both valve covers. Some pictures in the 1930 Parts Book do not show these decals. The Airmaze filter had an aluminum tag under the center nut. The horn is a Sparton SOS. It too carried an aluminum tag. Reproduction data tags are available for all models. The generator cutout is marked Delco with raised embossed letters.
- L:** Chrome is correct for head bolts, valve cover bolts, distributor screws and timing plate screw, plug wire loom cover and "cobra head" and the mounting bolts, thermostat bolts, oil fill cap, starter and generator mounting bolts, all throttle linkage including hand throttle. The 4 hand control rods for spark advance and heat riser are black on 1929 and 1930 models.
- M:** All years had engine splash pans which should be painted black.
- N:** The Gemmer steering box standard for 1929 and 1930. Some 1930s do have the Ross box. New models for 1931 used the Ross box. Gemmer boxes are found on all 3 years.
- O:** Firewall color is usually black. Some original cars have been found with body color firewalls.
- P:** Water manifolds can be black or chrome. Factory photos show them both ways.
- Q:** Valve covers can also be black or chrome. Factory photos show some with Pierce-Arrow decals and some without.

## VIII. INTERIORS

- A:** 1929 133s and 1930 Model C's had black painted dashes with white face gauges. The handles on the dash and steering wheel were a short oak leaf design.  
Long wheelbase cars had black face gauges and a woodgrain dash. The dash and steering wheel handles were longer and straight ribbed.



**Oak Leaf Door Handle**



**Ribbed Door Handle**



**Black Dash with White Face Instruments**



**Wood or Woodgrain Dash with Black Face Instruments**

The oak leaf design was used in all three years intermittently in the interiors even when ribbed handles are found on the exterior. Exceptions include late 1929 133s that left the factory with long wheelbase style wood grained dashes and black face gauges and long ribbed handles. 1931 gauges are both white and black face on the same models.

- B:** Pierce used a combination of natural woods and woodgrain on the interiors. The steering column is chrome plated on all models. Interior materials should be wool Broadcloth or Bedford cord. The PAS discourages the use of mohair or modern sofa materials. These are not up to Pierce standards. Each model had its own pleated or smooth style seats. The sales catalogs make a great reference for your restoration. All closed cars had a wool short nap carpet bound on the edges. Open cars had rubber mats. Interior plating is both nickel and chrome even on the same car. The 1929 & 1930 parts book has a list of finishes.

## **IX. TRANSMISSIONS**

- A:** In 1929 all models used a 3 speed with the hand brake shoe and drum located at the rear of the transmission, made by Brown-Lipe.

Early 1930 Models A & B used the Clark Equipment Herringbone 4 speed transmission. On May 15, 1930, Pierce changed to a Brown-Lipe 4 speed spur gear transmission because there was a shortage of the Clark. Early 1930 Model C's used the Brown-Lipe 3 speed like the 1929 but with a 4 wheel handbrake. Mid year Model C's used the 4 speed transmissions. Late Model C's went back to a Brown-Lipe spur tooth 4 speed transmission with a propeller shaft hand brake that reappeared when Pierce went to cable brakes on all 4 wheels in late 1930. Refer to the 1930 parts book for more detailed descriptions. In 1931, Warner Gear Co. freewheeling became standard on all Pierce-Arrow models. All had 3 speeds. Mid-year changes were made to increase case and gear sizes for added longevity. Factory service Bulletins show freewheeling as a late 1930 option. Clark 4 speeds were still an option for 1931, and its shift pattern is included in the 1931 owner's manual. Pierce service bulletins also shows the new 1932 Warner transmission was used on a few 1931 cars.

- B:** 1929 and 1930 hand brake and shifter levers are chrome plated. 1929 to 1931, all gear shift knobs are black hard rubber with a silver center except those with Free-Wheeling. The Free-Wheeling lever had a black knob with a large chrome center button. 1931 had both chrome and black shifter and hand brake handles. A square rubber floor plate is used at the transmission on all models. A round or oval hole in the center of the plate is determined by the shape of the shift tower.

## **X. BODY AND PAINT FIT AND FINISH**

- A:** Pierce offered standard colors, but for a small fee they would paint the car most any color. If you choose to use a metallic color use a fine grain metallic paint. All Pierce-Arrows were striped. Specific year catalogs make an excellent reference for locations and width of strip and patterns.
- B:** Model 133's and Model C's used the oak leaf discussed earlier on exterior handles as well. 143 inch wheel-base cars and 1930 Model A and B, as well as Model 41, 42 and 43 used the longer handles with the straight ribs mentioned earlier.

- C: Running board material was rubber on all cars. An 1/8 inch wide square rib was used on 1929 133s and Model C's. All others used a variety of different patterns of rubber with different widths and raised areas. Period catalogs and parts books are a good source to see the differences. Reproductions are available for most models.
- D: All Roadsters should have side curtains and hardware present. Closed cars had a half oval aluminum bead around the top insert.
- E. The underside of the fenders was black.

## **XI: TIRES, WHEELS, AND HUBCAPS**

- A: Pierce Arrow offered many wheel options. Both wood and wire wheels. The logo on all hub caps have painted black backgrounds with red feathers and arrow head.
- B: Tire brands do not matter. Black or white wall tires are your choice. Truck tires are automatic deductions. 1929 133s and early 1930 Model C's used a small screw on hub cap on wood wheels. All 1929 143s and all 1930 and 1931s used the same large round flat hub cap on wood and wire wheels.
- C: Valve stems are metal for all wheels. Valve caps or covers are all metal, nickel or chrome plated, rubber caps will receive a deduction. Due to the modern tire sizing, fender welled spares must be covered to hide tire size difference or a deduction will be taken. Wood wheel pinstripe patterns are shown in Pierce-Arrow period photos and factory brochures. Natural finish wood wheels are not pinstriped.

## **XII. CHASSIS**

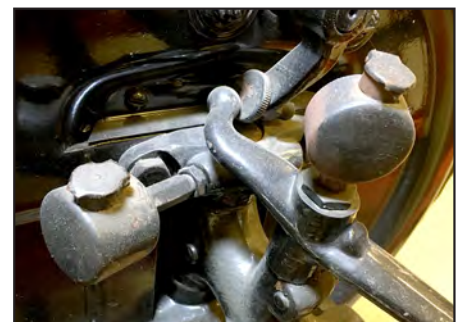
- A: Pierce offered many wheel base lengths during this three year period. The chassis number is located on the right front outer rail, just rear of the tire. A repro plate is available. Pierce used two shock vendors, Houdaille and Lovejoy.
- B: 2 and 3 shoe brakes were used in 1930. Rod actuated brakes were used in 1929 and up to mid 1930. Cable actuated brakes were used on late 1930s and 1931s.
- C: Lubrication fittings during these three years used Zerk, not ball type Alemites. Four oil cups are used on the front kingpins. Grease cups are located at the rear outer wheel bearings, water pump and distributor. All Models used spring gaiters both in metal and leatherette.



**Zerk Grease Fittings**



**Grease Cups**



**Oilers**

## **XIII. REAR BUMPER**

- A: Which ever bumpers a car has they should match front and rear. The parts books shows all the different variants between models.





**Tail Lamp Assembly - Type "A"**



**Tail Lamp Assembly - "Arrowlite"**

#### **XIV. TAIL LIGHT ASSEMBLY**

- A:** 1929 and 1930 used a Pierce Arrow "Type A" three drum light assembly. This is the same type used since 1925. The difference is entire assembly was chrome plated in 1929 and 1930. The backup light is on the outer drum, the tail and tag light in the center and the stop light with the large S in the glass is on the inside drum. 1931 changed to the "Arrowlite" three drum assembly. This light has a ribbed lens on "Stop" and backup lights. The tail lamp is a red flat lens with a diamond design. Lamp locations stayed the same. Right hand tail lights were an option.

#### **XV. SAFETY ITEMS**

- A:** Battery disconnects, outside mirrors, and turn signals which are tastefully done to a period standard receive no point deductions.
- B:** Wheel weights add to drivability and also have no point deductions.

#### **XVI. QUESTIONS AND ANSWER SESSION**

##### **References:**

- 1929-31 Owner's Manuals
- 1929 Parts Book, largest pages of drawings, part numbers
- 1930 Parts Book, fewer drawings,(if no changes from 1929 many drawing pages are deleted)
- 1931 Parts Book, part numbers only
- The Story of Pierce Arrow, 1930*
- PAS Service Bulletins and Rosters
- PAS Library and AACA Library - Director: Chris Ritter email: [critter@aacalibrary.org](mailto:critter@aacalibrary.org)
- Factory Sales Catalogs, Brochures and Period Photos
- Chris Deikman (IA) - 1931 Pierce-Arrow restoration information email: [greyhusky100@hotmail.com](mailto:greyhusky100@hotmail.com)
- PAS Technical Director H. Paul Johnson email: [hpaulj@comcast.net](mailto:hpaulj@comcast.net)



# PIERCE-ARROW



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## STAINLESS STEEL

### SPORTS AND ATHLETICS *Continued*

thrashing, knees churning—hips shimmying à la Gilda Gray.

Now he is sweeping hell-bent toward the flank, shadowing his unsparing interferers. Observe how craftily he makes use of "cover," how artfully he adapts his speed to the pace of his colleagues.

Crimson arms clutch for him. Marsters brings his knees to the level of his chin like a blue-ribbon harness pony, at the same time switching his hips so violently on their axis that the tackle is broken.

Albie Booth, the "Mexican jumping bean," lives in New Haven, the seat of Yale. There he is a home-town boy who has made good, according to a copyrighted North American Newspaper Alliance article which describes his personality. Dipping into parts of this account:

He's a quiet workingman's son, and he isn't "stuck up." He was born twenty-one years ago, the second son of three. An older brother, Bill, also a Yale student, was graduated three years ago. Bill, too, was athletic, but he had no time to make the varsity. He played on the squad, however, giving what time he could spare. Bill was an outfielder on the Yale baseball team.

So much for background.

"Perhaps you'd like to get the rest from Albie," suggested Paul Barnett of the athletic department. "He rooms in Van-Shef dorm."

There a short, compact young fellow, freckled, hair parted carelessly in the middle, tossed a sailor's cap on a trunk and stepped out.

"Booth? That's me," he said gruffly.

A Harvard man might have improved the grammar but hardly the handshake that Albie gave.

"Come on in. You don't mind waiting while the photographer finishes?"

He excused himself and posed in no fewer than twenty different ways. Finally he went down-stairs to pose in the sunlight. The youth with the camera packed up presently and in an aside confided:

"Say, you can just put it down in your note-book, here's one football hero who's no snob."

"You've played football?" Booth began. "Well, then you'll understand when I tell you that I'm not too keen on all this individual praise. You know, I know, and the coaches and a good many of the spectators know, that unless our line had opened up out there Saturday, and if the interference hadn't taken the Army tacklers out, I couldn't have made those runs.

"Before you ask any questions, I'd like to say that it was the boys in the line and our wing backs who interfered for me that licked Army. Put that up in front, will you, please?"

He pulled his feet up in the chair, his husky shoulders almost bursting through a brown sweat jacket pulled over a white shirt. Nothing particularly collegiate about his dress. Nor his looks. A typical boy of twenty-one, but physically hard and wiry as bamboo.

"What was your longest run?"

He thought a moment.

"About seventy-three yards—that was the one Ned Austin helped me on. He took out the next to the last tackler. He'd have gotten me sure."