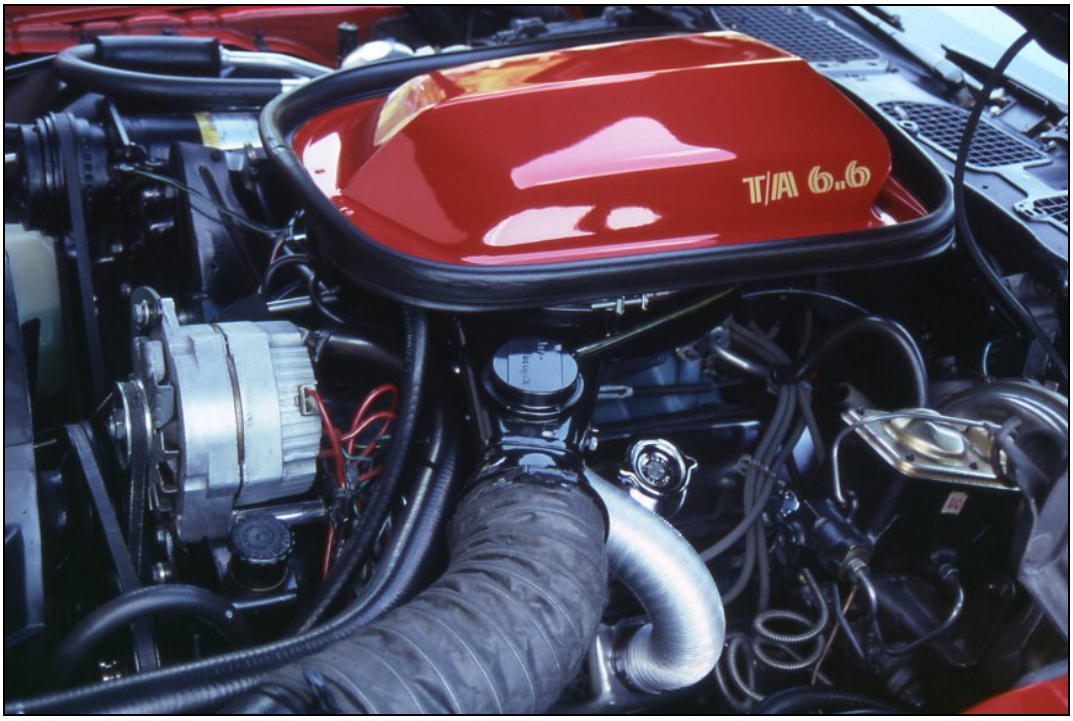
# 1977-79 T/A 6.6 HISTORICAL INFORMATION


***By John Witzke***

***Tech Advisor & Historian - W72 Performance Package***

## INTRODUCTION

Welcome to the T/A 6.6 Historic Information Guide. My intention in is to help establish a benchmark for accurate information about the T/A 6.6 engine as installed in the Pontiac Firebird. Over the past several years, my research of the T/A 6.6 engine has resulted in the collection of a significant amount of information about this engine package. My research is ongoing and this guide will be updated when new information is uncovered. Until then, current Firebird T/A 6.6 owners, future owners and overall Pontiac enthusiasts, I hope that somewhere in the following information, I will be able to share with you something you may not have known. This information guide was written by an enthusiast for the enthusiast and will focus on the last hi-performance 400-cid engine developed by Pontiac, the *"T/A 6.6"*.

***John Witzke – Historian for the 1977-79 W72 Performance Package***

John Witzke

## ONE – HERITAGE

During twelve model years (1967-1978), the durable 400-cid engines went through various stages of hi-performance development offering the enthusiasts a solid street performance engine. The likes of such hi-performance 400-cid engines developed by Pontiac during the mid-1960s until 1970 included, 400 HO, Ram Air's I, II, III, IV and V. Without question, these were some of the best hi-performance engines Pontiac ever produced.

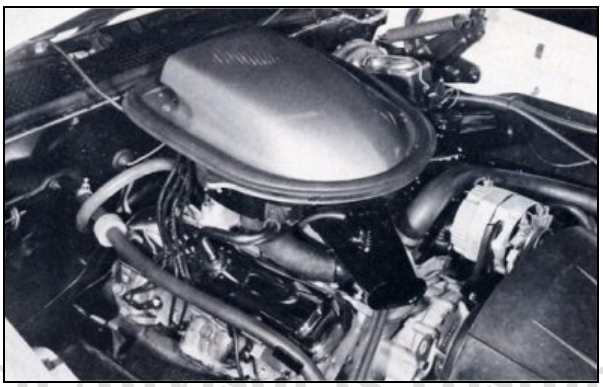


***Photo courtesy Super Stock & Drag Illustrated Magazine***

***1970 Trans Am Ram Air III engine***



In the early 1970s, Pontiac began to focus their performance development on the new for 1970, 455-cid engine. While the 400-cid engines were still on the Firebird option sheets, it was the 455-cid engines that became the top performance engine option in the Firebird line from 1971 thru 1976. The most famous of these hi-performance 455-cid engines were the 1971-72 455 HO and the 1973-74 SD-455. By the mid-1970s, fuel shortages and stricter emission standards took their toll on all hi-performance engines. Pontiac was not immune to this and as a result, beginning in 1975, performance took a turn for the worst; however, a new revolution in performance was about to begin. In 1975, Pontiac responded with a new 455-HO engine option for the Trans Am. And for the first time, the Firebird Formula did not share the top performance engine of the Trans Am. In reality, this 455-cid engine was the same engine you could get in the full-size Pontiac cars during that period as the automotive press was quick to point out. For 1976, the same 455 Trans Am returned, only this time, the HO designation was dropped and the shaker scoop now read 455. The 1975-76 455-cid Trans Ams were solid high-15 second quarter-mile performers right off the showroom floor, the very best Detroit had to offer during these very tough times.

During late 1975 and early 1976, Pontiac engineers knew the 455-cid engines would be phased out of production by the end of the 1976 model year production. With this in mind, Pontiac needed a new performance engine for the Firebird. Once again, Pontiac engineers chose the tried and true 400-cid engines as their new hi-performance engine. Unfortunately, just like the 455-cid engine, these engineers knew that the Pontiac 400-cid engine would also soon be phased out. After the 1976 model year, the 400-cid engines would be produced only two more model years

Beginning with the 1977 model year, Pontiac offered a new high-performance engine option for the 400-cid engines called T/A 6.6. It was only available in the 49-state Trans Am and Formula Firebird models and standard in all 49-state Le Mans Can Am. During 1978 and 1979, the T/A 6.6 engine was again offered only in 49-state Trans Am and Formula Firebird models. By mid-1978, the automatic transmission was dropped from the option list, making the Borg-Warner Super T-10 4-speed the only transmission available with the W72 Performance Package. It appears that by the end of the 1978 model year, Pontiac had 8,690 T/A 6.6 engines left for use in the 1979 4-speed Trans Am and Formula Firebird models.



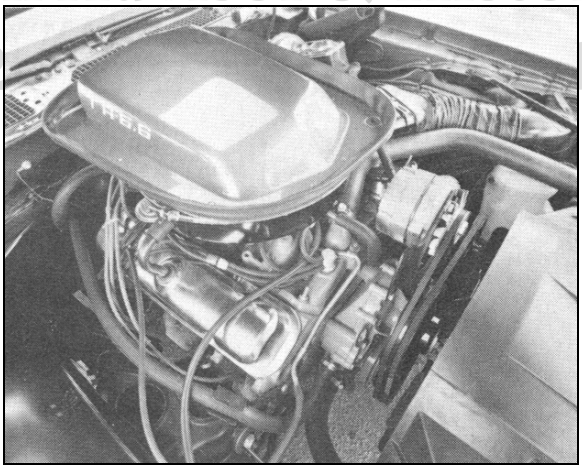


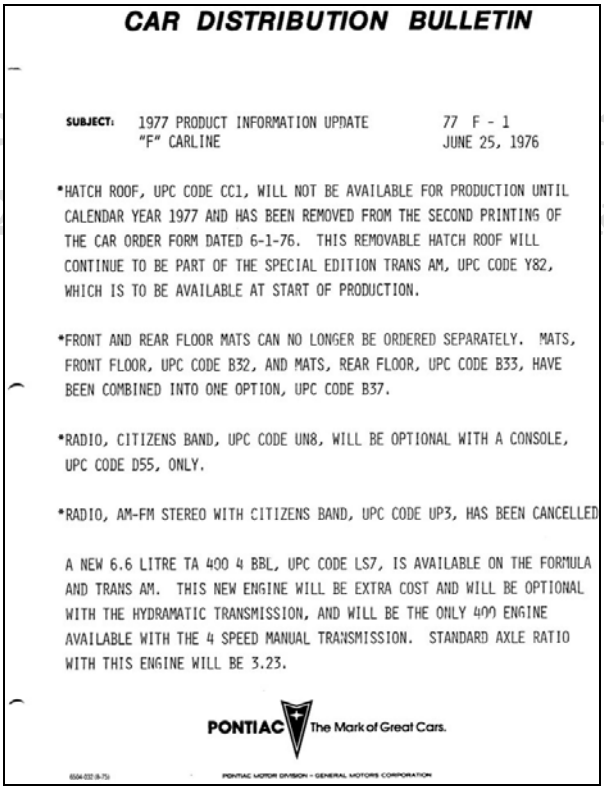
***Photo courtesy of Road Test Magazine***
***1978 T/A 6.6 Engine***

It has been previously reported that according to former Pontiac employee Tom Goad, sometime during 1978, Pontiac stockpiled the leftover T/A 6.6 engines at a warehouse in Ohio for those 1979 cars. Sadly, availability of the T/A 6.6 engines ran out sometime in March or April 1979, marking the end of the last hi-performance 400 Pontiac engine. The T/A 6.6 became the last factory-installed hi-performance 400-cid engine produced by Pontiac.

## TWO - OPTION CODE & PRICING

### *DEALER NEWS FLASH! NEW ENGINE OPTION FOR TRANS AM AND FROMULA.*

Pontiac Car Distribution Bulletin 77- F-1, June 25, 1976 introduced a new 400-cid engine called T/A 6.6 and available on Trans Am and Formula at extra cost. The new engine was originally to carry UPC code LS7, but for reasons unknown around August 5, 1976 just before the release, code LS7 was changed to code W72. All of the original Pontiac build bulletins and memos identify the T/A 6.6 engine as W72 or T/A 400 in 1977-78 and L78 or T/A 400 in 1979. The T/A 6.6 engine carried UPC code W72 on the 1977-78 Firebird dealer order forms and was available only on Firebird Trans Am and Formula models, except for the 1977 Can Am. All Pontiac bulletins and memos for the 1979 model year list the T/A 6.6 engine in the dealer order guide under UPC code L78.



**CAR DISTRIBUTION BULLETIN**

SUBJECT: 1977 PRODUCT INFORMATION UPDATE
"F" CARLINE

77 F - 1
JUNE 25, 1976

*HATCH ROOF, UPC CODE CC1, WILL NOT BE AVAILABLE FOR PRODUCTION UNTIL CALENDAR YEAR 1977 AND HAS BEEN REMOVED FROM THE SECOND PRINTING OF THE CAR ORDER FORM DATED 6-1-76. THIS REMOVABLE HATCH ROOF WILL CONTINUE TO BE PART OF THE SPECIAL EDITION TRANS AM, UPC CODE Y82, WHICH IS TO BE AVAILABLE AT START OF PRODUCTION.

*FRONT AND REAR FLOOR MATS CAN NO LONGER BE ORDERED SEPARATELY. MATS, FRONT FLOOR, UPC CODE B32, AND MATS, REAR FLOOR, UPC CODE B33, HAVE BEEN COMBINED INTO ONE OPTION, UPC CODE B37.

*RADIO, CITIZENS BAND, UPC CODE UN8, WILL BE OPTIONAL WITH A CONSOLE, UPC CODE D55, ONLY.

*RADIO, AM-FM STEREO WITH CITIZENS BAND, UPC CODE UP3, HAS BEEN CANCELLED

A NEW 6.6 LITRE TA 400 4 BBL, UPC CODE LS7, IS AVAILABLE ON THE FORMULA AND TRANS AM. THIS NEW ENGINE WILL BE EXTRA COST AND WILL BE OPTIONAL WITH THE HYDRAMATIC TRANSMISSION, AND WILL BE THE ONLY 400 ENGINE AVAILABLE WITH THE 4 SPEED MANUAL TRANSMISSION. STANDARD AXLE RATIO WITH THIS ENGINE WILL BE 3.23.

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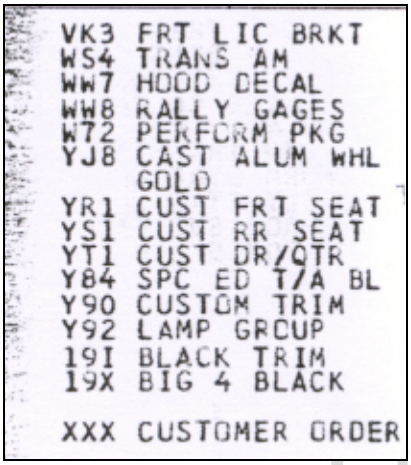
PONTIAC MOTOR DIVISION • GENERAL MOTORS CORPORATION

***Bulletin Courtesy General Motors Corporation***

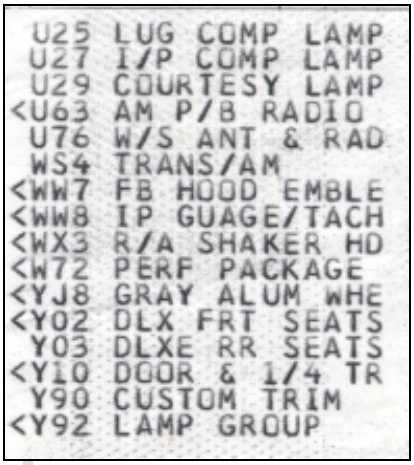
***Pontiac bulletin introducing the T/A 6.6 engine option to dealers.***

All 1977-79 Firebirds produced with the T/A 6.6 engine option list UPC code ***W72 PERF PACKAGE (NORWOOD, OH) or W72 PERFORM PKG (VAN NUYS, CA)*** on the factory build sheet as shown below.


VK3 FRT LIC BRKT
WS4 TRANS AM
WW7 HOOD DECAL
WW8 RALLY GAGES
W72 PERFORM PKG
YJ8 CAST ALUM WHL
GOLD
YR1 CUST FRT SEAT
YS1 CUST RR SEAT
YT1 CUST DR/QTR
Y84 SPC ED T/A BL
Y90 CUSTOM TRIM
Y92 LAMP GROUP
19I BLACK TRIM
19X BIG 4 BLACK

XXX CUSTOMER ORDER

***Van Nuys CA Build Sheet***


U25 LUG COMP LAMP
U27 I/P COMP LAMP
U29 COURTESY LAMP
<U63 AM P/B RADIO
U76 W/S ANT & RAD
WS4 TRANS/AM
<WW7 FB HOOD EMBLE
<WW8 IP GUAGE/TACH
<WX3 R/A SHAKER HD
<W72 PERF PACKAGE
<YJ8 GRAY ALUM WHE
<Y02 DLX FRT SEATS
Y03 DLXE RR SEATS
<Y10 DOOR & 1/4 TR
Y90 CUSTOM TRIM
<Y92 LAMP GROUP

***Norwood OH Build Sheet***



The 1977 W72 Performance Package cost $50.00 for the Trans Am and $205.00 for the Formula. It appears that early in the 1978 production, the W72 Performance Package included an additional suspension package. This new suspension carried UPC code WS6 and was called *"Trans Am Special Performance Package"*. On the build sheet, this suspension was identified with UPC code WS6 - T/AM Mark 1V. During 1978, the WS6 suspension was available only on the Trans Am and left Firebird Formula buyers with the standard Trans Am suspension. The price of the WS6 package with the T/A 6.6 engine was $324.00 for the base Trans Am. The cost for the T/A 6.6 engine and WS6 package with the black and gold Y82/Y84 and gold Y88 special edition cars was $151.00. The reason for the difference in price is the Cast Aluminum Wheels are included with the Y82/Y84 and Y88 packages.

According to Pontiac Car Distribution Bulletin, February 22, 1978, to Pontiac Dealers, the T/A 6.6 engine option would no longer require UPC code WS6. A build sheet from a 1978 W72 Y84 Trans Am produced on January 8 1978 at the Van Nuys CA assembly plant does not have the WS6 option. According to Pontiac Car Distribution Bulletin 78-F-12, November 22, 1977, the last date to preference an Y82/Y84 car was November 30, 1977. The Y84 was finally released for production on November 29, 1977, one day before the order cut off date. In addition I personally know of a 1978 Trans Am with the W72 Performance Package ordered in mid-October 1977 without WS6. So it would appear as early as October/November 1977, a 1978 T/A 6.6

Trans Am could be ordered without WS6. To date I have not been able to locate any Pontiac documents earlier than the February bulletin. The cost for the T/A 6.6 engine alone during 1978 was $75.00 for the Trans Am and $280.00 for the Formula.

Pricing for 1979 was a little different than in 1977 and 1978. The L78 T/A 6.6 option cost $90.00 for the Trans Am, but required the WS6 Handling Package at $434.00 for a total cost of $524.00. The WS6 name was revised for 1979 from *Trans Am Special Performance Package* to *Special Performance Package* since it was now optional on the Firebird Formula. On the 1979 Tenth Anniversary Trans Am, the WS6 Package was standard, so the W72 option was $90.00. There was a $103.00 credit for cruise control, which was standard with the Tenth Anniversary Trans Am Package but was not available with the 4-speed transmission. The Y84 Special Edition Trans Am with the T/A 6.6 engine included the J65 disc brake rear axle, so the WS6 Package was only $250.00. Add the $90.00 L78 option and the total cost for a T/A 6.6 Y84 Trans Am was $340.00. The 1979 Formula T/A 6.6 package price was $370.00 plus $434.00 for the mandatory WS6 Package and $63.00 for required limited slip differential, for a total of $867.00.



### 1977 UPC Code – W72

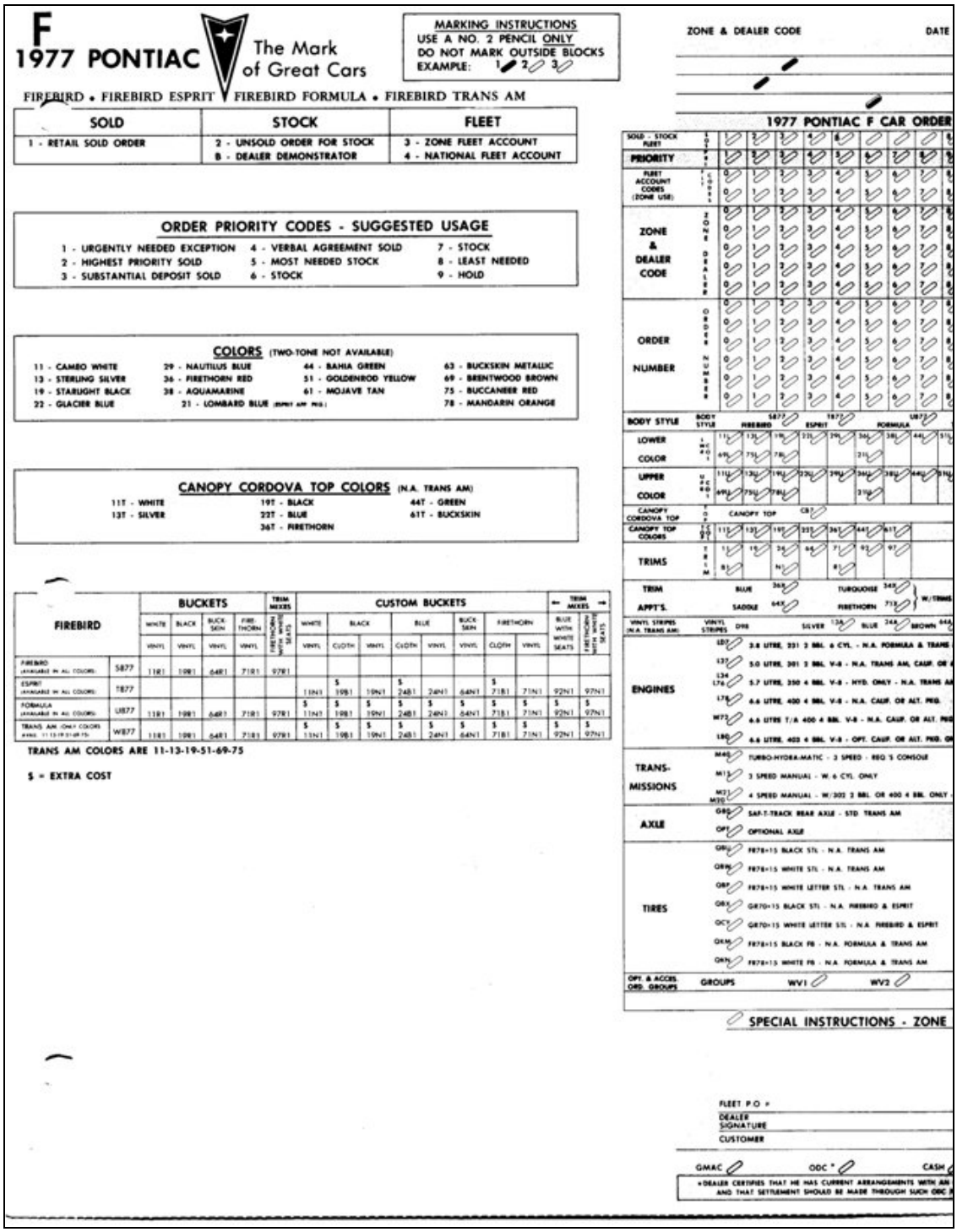
Trans Am - $50.00
Formula - $205.00

### 1978 UPC Code – W72

Trans Am with UPC code WS6 ($249.00) - $324.00
Trans Am with UPC code WS6 and UPC codes Y82, Y84, Y88 - $151.00
Trans Am without UPC code WS6 - $75.00
Formula - $280.00, (UPC code WS6 was only available on Trans Am)

### 1979 UPC Code – L78/W72

Trans Am - $90.00 with mandatory UPC WS6 ($434.00) - $524.00
Trans Am UPC code Y84 with mandatory UPC WS6 ($250.00) - $340.00
Trans Am UPC code Y89 with mandatory UPC WS6 (standard) - $90.00
Formula - $370.00 plus mandatory UPC WS6 & G80 ($434.00 + $63.00)867.00



F
1977 PONTIAC The Mark of Great Cars

FIREBIRD • FIREBIRD ESPRIT • FIREBIRD FORMULA • FIREBIRD TRANS AM

MARKING INSTRUCTIONS
USE A NO. 2 PENCIL ONLY
DO NOT MARK OUTSIDE BLOCKS
EXAMPLE: 1 2 3

ZONE & DEALER CODE

DATE

| SOLD | STOCK | FLEET |
|---|---|---|
| 1 - RETAIL SOLD ORDER | 2 - UNSOLD ORDER FOR STOCK<br>8 - DEALER DEMONSTRATOR | 3 - ZONE FLEET ACCOUNT<br>4 - NATIONAL FLEET ACCOUNT |

ORDER PRIORITY CODES - SUGGESTED USAGE

1 - URGENTLY NEEDED EXCEPTION
2 - HIGHEST PRIORITY SOLD
3 - SUBSTANTIAL DEPOSIT SOLD
4 - VERBAL AGREEMENT SOLD
5 - MOST NEEDED STOCK
6 - STOCK
7 - STOCK
8 - LEAST NEEDED
9 - HOLD

COLORS (TWO-TONE NOT AVAILABLE)

11 - CAMEO WHITE
13 - STERLING SILVER
19 - STARLIGHT BLACK
22 - GLACIER BLUE
29 - NAUTILUS BLUE
36 - FIRETHORN RED
38 - AQUAMARINE
21 - LOMBARD BLUE (ESPRIT AM ONLY)
44 - BAHIA GREEN
51 - GOLDENROD YELLOW
61 - MOJAVE TAN
63 - BUCKSKIN METALLIC
69 - BRENTWOOD BROWN
75 - BUCCANEER RED
78 - MANDARIN ORANGE

CANOPY CORDOVA TOP COLORS (N.A. TRANS AM)

11T - WHITE
13T - SILVER
19T - BLACK
22T - BLUE
36T - FIRETHORN
44T - GREEN
61T - BUCKSKIN

| FIREBIRD | | BUCKETS: WHITE VINYL | BUCKETS: BLACK VINYL | BUCKETS: BUCK SKIN VINYL | BUCKETS: FIRETHORN VINYL | TRIM MIXES: FIRETHORN WITH WHITE SEATS | CUSTOM BUCKETS: WHITE VINYL | CUSTOM BUCKETS: BLACK CLOTH | CUSTOM BUCKETS: BLACK VINYL | CUSTOM BUCKETS: BLUE CLOTH | CUSTOM BUCKETS: BLUE VINYL | CUSTOM BUCKETS: BUCK SKIN VINYL | CUSTOM BUCKETS: FIRETHORN CLOTH | CUSTOM BUCKETS: FIRETHORN VINYL | TRIM MIXES: BLUE WITH WHITE SEATS | TRIM MIXES: FIRETHORN WITH WHITE SEATS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FIREBIRD (AVAILABLE IN ALL COLORS) | 5877 | 11R1 | 19R1 | 64R1 | 71R1 | 97R1 | | | | | | | | | | |
| ESPRIT (AVAILABLE IN ALL COLORS) | 1877 | | | | | | 11N1 | $ 19B1 | 19N1 | $ 24B1 | 24N1 | 64N1 | $ 71B1 | 71N1 | 92N1 | 97N1 |
| FORMULA (AVAILABLE IN ALL COLORS) | U877 | 11R1 | 19R1 | 64R1 | 71R1 | 97R1 | $ 11N1 | $ 19B1 | $ 19N1 | $ 24B1 | $ 24N1 | $ 64N1 | $ 71B1 | $ 71N1 | $ 92N1 | $ 97N1 |
| TRANS AM (ONLY COLORS AVAIL. 11-13-19-51-69-75) | W877 | 11R1 | 19R1 | 64R1 | 71R1 | 97R1 | $ 11N1 | $ 19B1 | $ 19N1 | $ 24B1 | $ 24N1 | $ 64N1 | $ 71B1 | $ 71N1 | $ 92N1 | $ 97N1 |

TRANS AM COLORS ARE 11-13-19-51-69-75

$ = EXTRA COST

1977 PONTIAC F CAR ORDER

SOLD - STOCK - FLEET
PRIORITY
FLEET ACCOUNT CODES (ZONE USE)
ZONE & DEALER CODE
ORDER NUMBER
BODY STYLE — 5877 FIREBIRD — 1877 ESPRIT — U877 FORMULA
LOWER COLOR
UPPER COLOR
CANOPY CORDOVA TOP — CANOPY TOP
CANOPY TOP COLORS
TRIMS
TRIM APPT'S. — BLUE — SADDLE — TURQUOISE — FIRETHORN — W/TRIMS
VINYL STRIPES (N.A. TRANS AM) — DRS — SILVER — BLUE — BROWN

ENGINES
- LD2 — 3.8 LITRE, 231 2 BBL. 6 CYL. - N.A. FORMULA & TRANS
- L22 — 5.0 LITRE, 301 2 BBL. V-8 - N.A. TRANS AM, CALIF. OR
- L34 L76 — 5.7 LITRE, 350 4 BBL. V-8 - HYD. ONLY - N.A. TRANS AM
- L78 — 6.6 LITRE, 400 4 BBL. V-8 - N.A. CALIF. OR ALT. PEQ.
- W72 — 6.6 LITRE T/A 400 4 BBL. V-8 - N.A. CALIF. OR ALT. PEQ
- L80 — 6.6 LITRE, 403 4 BBL. V-8 - OPT. CALIF. OR ALT. PEQ. O

TRANSMISSIONS
- M40 — TURBO-HYDRA-MATIC - 3 SPEED - REQ'S CONSOLE
- M13 — 3 SPEED MANUAL - W/6 CYL. ONLY
- M21 M20 — 4 SPEED MANUAL - W/305 2 BBL. OR 400 4 BBL. ONLY

AXLE
- G80 — SAF-T-TRACK REAR AXLE - STD. TRANS AM
- OPT — OPTIONAL AXLE

TIRES
- QBJ — FR78-15 BLACK STL - N.A. TRANS AM
- QBW — FR78-15 WHITE STL - N.A. TRANS AM
- QBP — FR78-15 WHITE LETTER STL - N.A. TRANS AM
- QBX — GR70-15 BLACK STL - N.A. FIREBIRD & ESPRIT
- QCY — GR70-15 WHITE LETTER STL - N.A. FIREBIRD & ESPRIT
- QKM — FR78-15 BLACK FB - N.A. FORMULA & TRANS AM
- QKN — FR78-15 WHITE FB - N.A. FORMULA & TRANS AM

OPT. & ACCES. ORD. GROUPS — GROUPS — WV1 — WV2

SPECIAL INSTRUCTIONS - ZONE

FLEET P.O. #
DEALER SIGNATURE
CUSTOMER

GMAC — ODC * — CASH

* DEALER CERTIFIES THAT HE HAS CURRENT ARRANGEMENTS WITH AN
AND THAT SETTLEMENT SHOULD BE MADE THROUGH SUCH ODC

***1977 Firebird dealer order form. The 1978 and 1979 order forms are similar***

## THREE - 400-CID ENGINE INFORMATION

All blocks used for the T/A 6.6 engines were cast at Pontiac Engine Plant 6 with final machining assembly at Pontiac Engine Plant 9. Both plants were located in Pontiac MI. Research shows that all 400-cid engine blocks used for the 1977-79 T/A 6.6 engines were cast through November 1977. The final casting day appears to have been on a Sunday in late November 1977. Pontiac employee Dimitrie Toth Jr. witnessed as the final 400-cid blocks were coming down the line, workers quietly shut down the machines used to produce the blocks as they pasted the different assembly process. According to Toth, it appears the final 400-cid engine blocks; those to be used for the 1979 model year were machined sometime around July 1978. During that period in time, this manufacturing plant featured completely modernized and automated measuring and assembly equipment using supercomputers. The T/A 6.6 engine was not a special *"hand-built"* or *"select-fit"* engine, it did receive a great deal of super detailing and reliability training from the Pontiac engineering department.



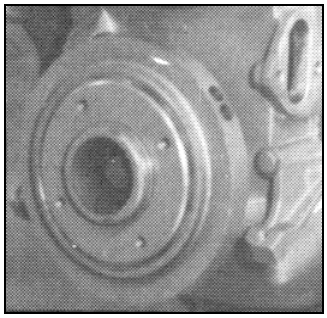
The T/A 6.6 and base L78 400-cid engines used the same 4.1212 x 3.750 bore and stoke. The factory deck clearance was .0038 above block and the firing order was 1-8-4-3-6-5-7-2. Even though both 400-cid engines used the same aluminum alloy, cam ground slipper type tin-plated pistons; the T/A 6.6 engines used molly filled cast iron, reverse twist, taper face tin-plated compression piston rings with a .015-inch gap. The base L78 400-cid engines used cast iron; reverse twist molly channel barrel face piston rings with a .019-inch gap. In addition, the T/A 6.6 engines also used SAE 1016 locked in rod (press-in) piston pins. Both 400-cid engines used standard cast Arma Steel connecting rods with Moraine 400 steel backed main bearings. In addition, a standard nodular cast iron crankshaft with Moraine 400 steel backed main bearings was used in both 400 engines. The number 1-3 journal diameter and bearing overall length measured 3.00x.94, the number 4 journal measured 3.00x1.13 and the number 5 journal measured 3.00x1.59. The crankpin journal diameter measured 2.25 inches.

## PISTON AND CONNECTING ROD PART NUMBERS

| Part No. | Part | Color Code |
|---|---|---|
| 544082 | Connecting Rod Bolt | |
| 522691 | Connecting Rod Nut | |
| 5467993 | Connecting Rod Bearing Assy. | |
| 9772783 | Piston Pin | |
| 497034 | Pistons Standard | |
| 493913 | Oil Ring Expander | Yellow |
| 490192 | Oil Ring Segment | Red |
| 9789691 | Compression Ring Upper | Red |
| 9786622 | Compression Ring Lower | Yellow |
| 497038 | Pistons .005 Oversize | |
| 494630 | Oil Ring Expander | Yellow |
| 490193 | Oil Ring Segment | Red |
| 9789692 | Compression Ring Upper | Red |
| 9786623 | Compression Ring Lower | Yellow |

The T/A 6.6 engine differed from the base 6.6 Litre engine in several ways. Unique to the T/A 6.6 was a set of smaller chambered 350-cid 6X4 heads that measured between 91 and 93cc. Officially, Pontiac released the 6X4 head combustion chamber measurements at 93.78 cc. The base 6.6 Litre engine used the larger combustion chamber 6X8 heads that measured between 98 and 101 ccs. These smaller chambered heads helped boost the compression ratio from 7.6:1 to an advertised 8:1. In addition to the smaller chambered heads, a specific camshaft was installed which produced a longer intake and exhaust duration than the camshaft used in the base 6.6 Litre. The T/A 6.6 also used a specific Rochester 800-CFM carburetor and had a higher capacity 60-psi oil pump that allowed plenty of oil pressure to vital engine parts during higher RPM conditions. A harmonic balancer with factory part number 477682 was used to help prevent the engine from shaking it self-apart during higher RPM use.





***(Above) Harmonic Balancer used on W72 engines.***

A little know fact was the use of slotted spring pin main bearing cap dowels on some T/A 6.6 engines in place of the solid dowel type used on the base 6.6 Litre engine block. Starting in 1975, Pontiac reportedly removed material from its engine blocks in order to make them lighter resulting in potentially weaker blocks as compared to the earlier blocks. According to some knowledgeable sources, the use of these spring pin dowels actually helped induce less stress into the main bearing webs of these weaker blocks during the higher RPM operating limits of the T/A 6.6 engines. These same sources say, while the spring pin dowels work well for street performance applications, these pins should not be used on racing engines. It is important to note that according to a Pontiac engineering document, it appears all T/A 6.6 engines built prior to September 28, 1976 used the same solid dowel caps as the base 6.6 Litre. The factory part number for the spring pin dowel appears to have been 527373. It appears General Motors discontinued the spring pin dowels in October 1987. These pins have been found in the 1977 number 500557 blocks used for the W72 Performance Package. It is unclear as to why Pontiac changed to a different engine block for the 1978 model year since all 400-cid blocks used for the W72 Performance Package would be cast only through November 1977. It appears the 1978 XX 481988 blocks did not have material in the web area removed like the 1977 500557 blocks. The reason for the change is unclear. Finally, according to a Pontiac technical memo dated early 1979, we do know that crankshaft and main bearing failures occurred on some 400-cid engines (including T/A 6.6 engines) used during the 1978 and possibly early 1979 model year. It is thought that improper torque setting on the main bearing caps may have been the cause. At the time of the report, Pontiac was unable to go back and examine production procedures since build out of the 400-cid engines had been completed.



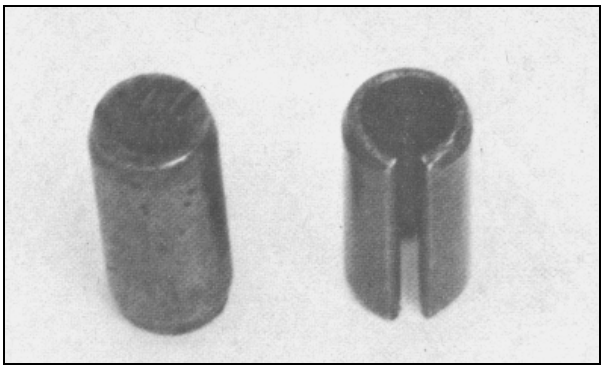


***Photo courtesy of Street Power Magazine***

***Instead of using solid dowel pins (left) from the base 400-cid engines; a slotted spring-pin (right) was used on the main bearing caps of the 1977 T/A 6.6 engines.***

**MAIN BEARING PART NUMBERS**

| Bearing Number | Standard Fit | Undersize Fit |
|---|---|---|
| 1 Upper in Block | 5458736 | 5458743 |
| 1 Lower in Cap | 5458736 | 5458743 |
| 2-3 Upper in Block | 5458736 | 5458743 |
| 2-3 Lower in Cap | 5458736 | 5458743 |
| 4 Upper in Block | 532111 | 533739 |
| 4 Lower in Cap | 5458738 | 5458745 |
| 5 Upper in Block | 532113 | 533743 |
| 5 Lower in Cap | 532114 | 533744 |

## FOUR - BLOCK CASTING NUMBERS, PART NUMBERS & CODES

The 1977 T/A 6.6 engine used a 2-bolt main bearing cap block with casting number 500557. For 1978-79, the 2-bolt main bearing cap block remained; however, the casting number was now XX 481988. The block casting numbers are located at the passenger side area pad of the block, next to the distributor hole just behind the number 8 cylinder. To the rear of the distributor hole are the letters "D" and "N", which signify either day shift or night shift production. On the driver side area pad next to the distributor hole will be the cast date code, (example B037. Decoded means B = February 03 = 3rd day 7 =1977).

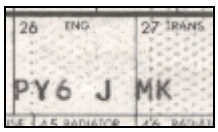


The 1978 and 1979 block will also have the letters XX cast in large letters just above the block casting number on the pad behind the number 8 cylinder, lifter valley area and front passenger side of the block.

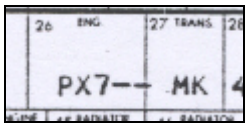
The following are examples of W72 block casting dates from numbers matching all original cars; a 1977 Trans Am produced on March 7th 1977 with block code Y6 and cast date B037 (February 3rd 1977), a 1978 Trans Am produced on March 23rd 1978 with block code X7 and cast date K077 (November 7th 1977), and a 1979 Tenth Anniversary Trans Am produced on February 18th 1979 with block code PWH and cast date K187 (November 18th 1977). What is interesting is the block in the 1979 car was produced November 18th 1977, just 11 days after the block in the 1978 car while both cars were produced nearly one year apart.

To date, no original T/A 6.6 Firebirds have been documented with block cast dates later than November 1977. My research continues with the casting dates, but if this trend remains consistent, then it appears that all 400-cid blocks (both 500557 and XX481988) used for the W72

Performance Package were only produced through November 1977. The stamped engine block identification code for the T/A 6.6 engine is located on the machined surface on the front of the block below the right (passenger side) cylinder head. On the factory build sheet, these codes can also be found in box number 26 labeled ENG. It appears that on all automatic transmission cars produced at the Norwood OH assembly plant, the letter J follows the three-digit engine code.




*Norwood OH Code*




*Van Nuys CA Code*

## BLOCK ASSEMBLY PART NUMBERS

| Part No. | Qty | Part |
|---|---|---|
| 488892 | 5 | Camshaft Bearing |
| 540511 | 8 | Cylinder Block Water Jacket Plug |
| 522780 | 10 | Crankshaft Main Bearing Cap Pin |
| 9798832 | 2 | Rear Main Bearing Cap Bolt |
| 3736406 | 2 | Flywheel Housing Dowel |
| 523096 | | Camshaft Rear Plug (2") |
| 9772826 | | Rear Main Oil Seal Packing |
| 523096 | 2 | Timing Chain Cover to Block Dowel |
| 518026 | 2 | Front Oil Plug |
| 444783 | | L.H. Rear Upper Oil Plug |
| 444783 | | L.H. Rear Lower Oil Plug |
| 444783 | | R.H. Rear Inner Oil Plug |
| 518170 | | R.H. Rear Outer Oil Plug |
| 541000 | | Connecting Rod Assembly |



The block codes can be located on the front machined pad area of the block just under the passenger side cylinder head. The block codes for each year per transmission are listed below.

**1977**

| Transmission | Code |
|---|---|
| Automatic | Y6 |
| 4-speed manual | WA |

**1978**

| Transmission | Code |
|---|---|
| Automatic | X7 |
| 4-speed manual | WC |

**1979**

| Transmission | Code |
|---|---|
| 4-speed manual | PWH |

## FIVE - INTAKE MANIFOLD & CARBURETOR

A Rochester 800-CFM Quadra-Jet carburetor, model M4MC was used on all 1977-79 T/A 6.6 engines. The barrel sizes are 1.218 primary and 2.25 secondary. All T/A 6.6 carburetors use specific primary jets and metering rods that differ from the base 6.6 Litre engines and are specific to year and transmission. However, all carburetors used the same lean secondary metering rod stamped DB. The secondary hanger varies for each carburetor. The T/A 6.6 engines used the shortest hanger per each carburetor to ensure the quickest operation of the secondary. The hanger letter code was originally marked with a black marker and is located on the backside of the carburetor. Secondary hanger codes range from code B to V. Research indicates that the W72 codes appear to range from B to K. To date, the K hanger has been found on a 1977 automatic carburetor # 17057266 and on the 1978 4-speed carburetor # 17058263. The B and D hanger has been found on a 1978 automatic carburetor # 17058266. Hanger code G has been found on a 1979 4-speed carburetor # 17059263.



In addition, all 1977-79 T/A 6.6 engines used a foam-insulated fuel line from the carburetor to the fuel pump to help prevent fuel vapor lock. The original factory part number for this fuel line was 549583.

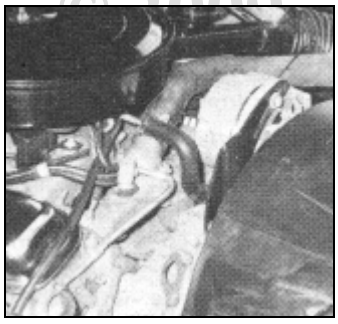


*Photo courtesy Cars Magazine*

***Insulated Fuel Line***

### 1977 Block Code Y6 Automatic

Carburetor – part # 17057266
Primary Jets - #71 part # 7031971
Primary Metering Rods – part # 17053342 stamped 42K
Secondary metering rods – part # 7047806 stamped DB (.0697 tip)

### 1977 Block Code WA 4-speed

Carburetor – part # 17057263
Primary Jets – # 70 part # 7031970
Primary Metering Rods – part # 17053342 stamped 42K
Secondary metering rods – part # 7047806 stamped DB (.0697 tip)

### 1978 Block Code X7 Automatic

Carburetor – part # 17058266
Primary Jets - #72 part # 7031972
Primary Metering Rods – part # 17051345 stamped 45K
Secondary metering rods – part # 7047806 stamped DB (.0697 tip)

### 1978 Block Code WC 4-speed

Carburetor – part # 17058263
Primary Jets - #70 part # 7031970
Primary Metering Rods – part # 17051340 stamped 40K
Secondary metering rods – part # 7047806 stamped DB (.0697 tip)

### 1979 Block Code PWH 4-speed

Carburetor – part # 17059263
Primary Jets - #70 part # 7031970
Primary Metering Rods – part # 17051340 stamped 40K
Secondary metering rods – part # 7047806 stamped DB (.0697 tip)



### CARBURETOR AND ASSOCIATED PARTS

| Part No. | Qty | Part |
|---|---|---|
| 17057263 | | Carburetor Assy. (1977 Manual) |
| 17057266 | | Carburetor Assy. (1977 Auto) |
| 17058263 | | Carburetor Assy. (1978 Manual) |
| 17058266 | | Carburetor Assy. (1978 Auto) |
| 17059263 | | Carburetor Assy. (1979 Manual) |
| 180080 | 2 | Carburetor to Manifold Bolt |
| 9432450 | 2 | Carburetor to Manifold Bolt |
| 496677 | | EGR Distribution Plate |
| 498796 | | Carburetor to Distribution Plate Gasket |
| 496794 | | Exhaust Crossover Choke Heat Gasket |
| 496968 | | Pipe Assy. Choke Heat – Manifold to Carburetor |
| 525013 | | Tube and Plate Assy. Intake Manifold Choke Heat |
| 9419030 | 2 | Bolt – Tube and Plate Assy. to Intake Manifold |
| 525611 | | Solenoid Assy. |
| 497436 | | Bracket Assy. – Idle Solenoid Assy. to Carburetor |
| 7030567 | | Screw – Idle Stop Solenoid Bracket to Carburetor |
| 7042654 | | Nut – Idle Stop Solenoid to Bracket Assy. |
| 491906 | | Gasket – Air Cleaner to Carburetor |
| 497377 | | Bracket – Throttle Control Cable Mounting |

| | |
|---|---|
| 492683 | Throttle Return Spring |
| 492684 | Throttle Return Spring |
| 547941 | Fitting and Cap Assy. (Automatic Trans) |
| 547942 | Fitting and Cap Assy. (Manual Trans) |

All T/A 6.6 engines used the same intake manifold as the base L78 6.6 Litre engine. Part number for the intake manifold for 1977 was 525355 and number 10003395 for 1978.

## INTAKE MANIFOLD AND ASSOCIATED PARTS

| Part No. | Qty | Part | Color Code |
|---|---|---|---|
| 525355 | | Intake Manifold (1977) | |
| 10003395 | | Intake Manifold (1978) | |
| 493404 | 2 | Gasket – Intake Manifold | |
| 543682 | 4 | Retainer – Intake Manifold | |
| 9798854 | 3 | Bolt – Intake Manifold (Special Stud) | |
| 3828782 | 6 | Bolt – Intake Manifold | |
| 9779596 | | Washer – Intake Manifold (With Studded Bolts) | |
| 499350 | | Spacer Assy. | |
| 7048194 | | EGR Valve Assy. | Green/Orange |
| 549426 | | Backpressure Transducer (1977 Engine Code WA) | White |
| 1000029 | | Backpressure Transducer | Green |
| 497829 | | Gasket – EGR Valve | |
| 497797 | | Clamp – EGR Valve | |
| 9418992 | | Bolt – EGR Valve Clamp to Intake Manifold | |
| 489939 | | Washer – EGR Valve Clamp to Intake Manifold | |
| 499151 | | Gasket – Backpressure Transducer Valve | |
| 9419032 | | Stud – EGR Valve Clamp to Intake Manifold | |
| 9417950 | | Bolt – Throttle Control Cable Bracket to Intake Man. | |
| 489869 | | Fitting – Intake Manifold Water Outlet | |
| 9775525 | | Bolt – Water Outlet Fitting (Studded Front) | |
| 9434077 | | Bolt – Water Outlet Fitting (Rear) | |
| 499876 | | Gasket – Water Outlet Fitting | |
| 9419234 | | Washer – Water Outlet Fitting Stud | |
| 3030055 | | Thermostat Assy. – 195 Degree | |
| 3830786 | 2 | Retainer – Distributor Vac. Hose to Eng. Wire Harness Bracket. | |
| 9780604 | | Sealer – Thermo Vac. Valve | |
| 9793588 | | Fitting – Intake Manifold Vacuum | |



## AIR CLEANER

Not only did the air cleaners used on the T/A 6.6 engines differ between the Trans Am and Formula, the style also differed between 1977 and 1978-79. The air cleaner used on the 1977 T/A 6.6 engines was the same “trumpet style” used on the base 1977-78 400 engines. The 1978-79 version air inlet was flatter and slightly wider than the thinner, more oval 1977 version.

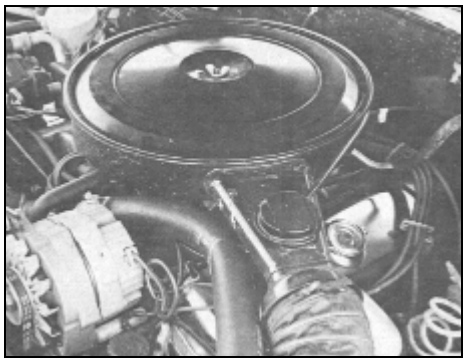


*Photo courtesy Street Racer Magazine*

***1977 Style Air Cleaner***

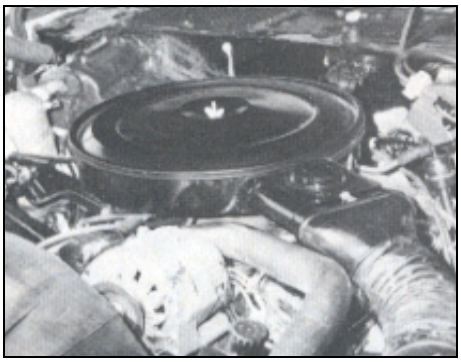


*Photo courtesy Popular Hot Rodding*

***1978-79 Style Air Cleaner***

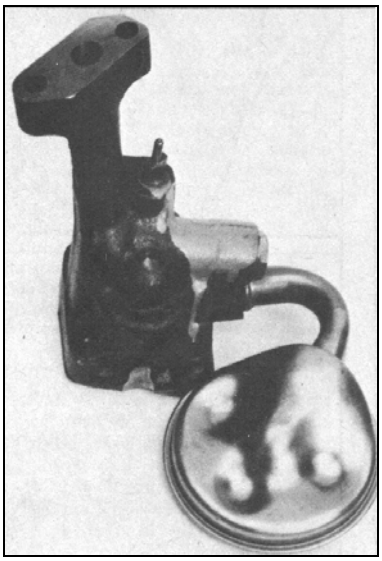
| Year | Model | Air cleaner | Air filter |
|---|---|---|---|
| 1977 | Trans Am | 8995542 | 8995325 |
| 1977 | Formula | 8995543 | 8995325 |
| 1978-79 | Trans Am | 8997017 | 8995325 |
| 1978-79 | Formula | 8997016 | 8995325 |



The 1978-79 T/A 6.6 air cleaners used a specific air cleaner duct snorkel adapter, however, the air intake flexible duct, was the same used on all 400 engines. All 1977-79 T/A 6.6 engines used air cleaner filter A542C with an outer black foam covering. The air cleaner two-digit letter code is located in box number 53 on the factory build sheet. These two-digit letter codes are as follows; 1977 Trans Am (**RE**), 1977 Formula (**RF**), 1978-79 Trans Am (**PJ, PF**), and 1978-79 Formula (**PH**). In addition, these codes are located on the air cleaner decal "Keep your GM car all GM".

## SIX - OIL PUMP AND PAN

In place of the 35-40 psi oil pump used on the standard 6.6 Litre engines, higher capacity 60-psi oil @ 2,600 RPM pump was specified for the T/A 6.6 engine. The 60-psi oil pump assembly used for the T/A 6.6 engine carried factory part number 549593. The original factory color code for the oil pump used in T/A 6.6 engines was green. The oil pump drive shaft carried part number 525462.

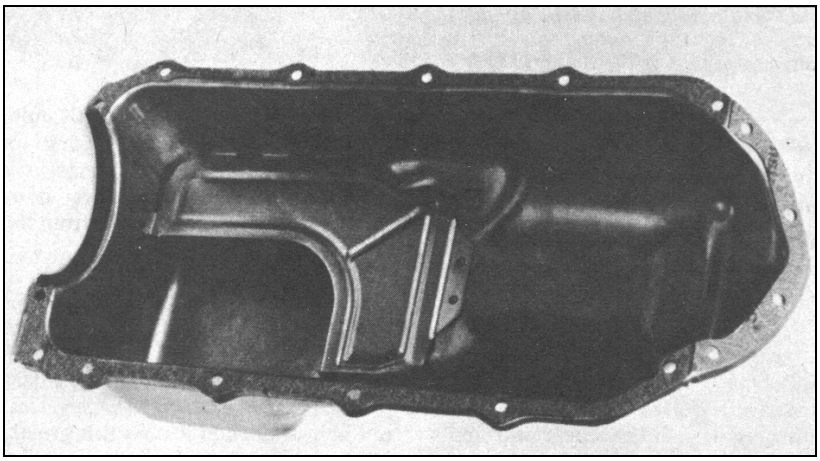


***(Above) W72 Oil Pump***

The T/A 6.6 engines also received a baffled oil pan, which carried part number 527503. These internal baffles help reduce oil starvation during hard acceleration, braking and cornering.



It is important to note that and internal Pontiac memo reference number 2261-18/11 dated 10/27/76 from engineering explained the engine oiling problems that plagued early 1977 code Y6 and WA W72 400 engines. Customers complained of valve lifter noise and sever loss of oil pressure during "wide open throttle" acceleration and / or sever uphill grades. In a *Pontiac Technical Service Bulletin* dated January 1977, corrective action was taken on these engines. Customers with engine serial numbers from SOP (Start of Production) through 90568 needed to have both the oil pump spring and oil pan replaced. Starting with engine serial number 90569 through 131040 needed to only have the oil pan replaced. According to factory engineering documents, it appears that 2,136 1977 T/A 6.6 engines (1,806 code WA and 330 code Y6) built through October 20, 1976 did not have a baffled oil pan, using instead a non-baffle oil pan. The part number for the non-baffled oil pan was 526259. These early code Y6 and WA T/A 6.6 engines were produced with the 40-psi oil pump, part number 549592 and non-baffled oil pans. Pontiac replaced both the oil pump assembly and oil pan items under warranty number J433100. Replacement of only the oil pan was handled under warranty claim number J433000.



***(Above) With the exception of very early 1977 engines, all 1977-79 W72 400 -cid engines used baffled oil pans. Factory part number was 527503.***

## ENGINE OILING SYSTEM PARTS

| Part No. | Qty | Part | Color Code |
|---|---|---|---|
| 527503 | 1 | Oil Pan | |
| 547289 | 1 | Oil Pan L.H. Gasket | |
| 547288 | 1 | Oil Pan R.H. Gasket | |
| 547287 | 1 | Oil Pan Front Gasket | |
| 527565 | 1 | Oil Pan Rear Seal | |
| 535871 | 17 | Oil Pan to Block Bolts | |
| 523707 | | Outside Oil Indicator Tube | |
| 490768 | | Oil Level Indicator Block to Baffle Tube | |
| 490769 | | Oil Level Indicator Bracket | |
| 490770 | | Oil Level Indicator Tube | |
| 9419029 | 2 | Tube Assy. to Bearing Cap | |
| 11500191 | | Oil Level Indicator Assy. to Block Washer | |
| 549593 | 1 | Oil Pump Assembly High Pressure | Green |
| *527297 | 1 | Pipe and Screen Assembly (Use until all stock has been exhausted) | |
| *549594 | 1 | Pipe and Screen Assembly (New) | |
| 525462 | 1 | Oil Pump Drive Shaft | |
| 532001 | 2 | Oil Pump to Block Bolt | |
| 103321 | 2 | Oil Pump to Block Washer | |
| 6437308 | | Oil Filter Assy. Adapter (Torque 10-15 lb. ft.) | |
| 6437035 | | Oil Filter | |
| 9773889 | | Oil Filter to Block Assy. Gasket | |
| 9418994 | 3 | Oil Filter to Block Bolts (Torque 30-35 lb. ft.) | |
| 103341 | 3 | Oil Filter to Block Washer | |
| 9780639 | | Engine Oil (6.47 qts.) | |

## SEVEN - CYLINDER HEADS & ROCKER COVERS

The T/A 6.6 engine used the smaller combustion chambered cast iron alloy 6X4 cylinder heads from the Pontiac 350-cid 4bbl engine. These cylinder heads carried part number 500795 for the complete assembly and 500801 for the partial assembly. No paint code was used at the plant to identify these cylinder heads. The 6X4 cylinder head volume of these heads measured between 91-93 ccs. Officially, Pontiac advertised the cylinder head volume measurements for the 6X4 heads at 93.74ccs. It is important to note, that slight variances in actual cylinder head volume will and can vary from the advertised ratings. The advertised maximum combustion chamber volume for the 6X4 heads measured 113.9 ccs. These cylinder heads helped increase the static compression ratio on the 400-cid engines from 7.6:1 to 8:1.

In comparison, the 6X8 cylinder heads used on the base 6.6 Litre engines differed from the 6X4 heads in both cylinder head volume and maximum combustion chamber volume. The advertised cylinder head volume for the 6X8 heads measured 100.04 ccs, while the maximum combustion chamber volume measured 120.20 ccs. The factory used an orange paint code to identify the 6X8 heads. The complete head assembly part number was 500798 and the partial assembly part number was 500804. The main difference between these two cylinder heads was in the size of the chamber scallop.



Both 6X4 and 6X8 cylinder heads used intake valves measured at 2.107-2.113 with a seat angle of 30 degrees and face angle of 29 degrees. The exhaust valves measured 1.657-1.663 with a seat angle of 45 degrees and a face angle of 44 degrees. In addition, both 6X cylinder heads used dual valve springs with 230-lbs. pressure at full lift, screw-in studs and 1.50 rocker arms. Head gasket thickness measured .0512 while the deck clearance measured .0038 (above).

The 6X4 cylinder heads can be identified externally by the number 4 stamped on the topside of a flat machine pad located towards the top front of the driver side head and the top rear of the passenger side head. This pad is just below the rocker cover and between the end and center exhaust ports just above the brass temperature gauge fitting. By placing a small mirror under this pad you should be able to see the stamped number 4. In comparison the 6X8 cylinder heads will have the number 8 stamped in place of a 4.

## CYLINDER HEAD ASSEMBLY PART NUMBERS

| Part No. | Qty | Part | Color Code |
|---|---|---|---|
| 489843 | 8 | Exhaust Valve Standard Size | Color Code – White |
| 489844 | 8 | Exhaust Valve .003 O.S. | Color Code – White |
| 526102 | 8 | Intake Valve Standard Size | Color Code – Purple |
| 526108 | 8 | Intake Valve .003 O.S. | Color Code – Purple |
| 518032 | 4 | Core Hole Plug | |
| 9798145 | 16 | Valve Spring Retainer Cup | |
| 9786427 | 4 | Valve Push Rod Guide | |
| 3835333 | 16 | Valve Stem Oil Seal | |
| 9778779 | 16 | Valve Spring Shield | |
| 9779008 | 16 | Valve Inner Spring | |
| 9779009 | 16 | Valve Outer Spring | |
| 9786277 | 16 | Valve Rocker Arm Ball Stud | |
| 528072 | 16 | Rocker Arms | |
| 549468 | 16 | Rocker Arm Ball | |
| 538343 | 16 | Rocker Arm Nut | |
| 9772749 | 32 | Valve Spring Retainer Nut | |
| 5232540 | 16 | Valve Lifters | |
| 522780 | 4 | Cylinder Head Dowel Pins | |
| 9778778 | 1 | L.H. Cylinder Head Core Hole Plug | |
| 499744 | 1 | R.H. Cylinder Head Heater Hose Fitting | |
| 9789677 | 16 | Valve Lifter Push Rods | |



## CYLINDER HEAD ATTACHING PARTS

| Part No | Qty | Type | Part |
|---|---|---|---|
| 538305 | 9 | A | Cylinder Head Bolts (Plain Head Bolt) |
| 538306 | 2 | B | Cylinder Head Bolts (Plain Head Bolt) |
| 535303 | 4 | C | Cylinder Head Bolts (Plain Head Bolt) |
| 9787074 | 2 | D | Cylinder Head Bolts (Studded Bolts) |
| 499317 | 3 | E | Cylinder Head Bolts (Studded Bolts) |
| 522780 | 4 | | Cylinder Head Location Dowel Pins |
| 9790911 | | | Head Gasket 2 Notch |

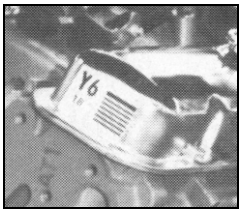
## LOCATION OF CYLINDER HEAD BOLTS

**Front**

| Driver Side | | Passenger Side | |
|---|---|---|---|
| E | C | C | A |
| D | A | A | B |
| A | A | A | E |
| D | A | A | B |
| A | C | C | E |

## ENGINE ROCKER COVERS

All 1977-79 T/A 6.6 engines came from the factory with dull or unfinished chrome valve covers. These valve covers have internal oil defectors and carried part numbers – RH 547294 and LH 547293. A bar code scanner label with the engine block code and initial timing was originally located on the driver side left front end of the valve cover. It appears that some engines may have a small label on the right front rocker cover with the engine serial (also called) number printed on it. These tags have been found on untouched low-mile original cars.




***Bar Code Label***



| Part No. | Qty | Part |
|---|---|---|
| 547445 | | Cover and Gasket Assy. Push Rods |
| 489823 | | Cover Assy. Push Rods |
| 9794121 | | Gasket Push Rod Cover |
| 9418474 | 2 | Bolt – Push Rod Cover |
| 9782628 | | Washer – Push Rod Cover |
| 535449 | | Grommet – C.C. Vent Outlet to Push Rod Cover |
| 491766 | | Hose – Outlet Valve to Fitting (61/2' Long) |
| 6424982 | | Valve Assy. Crankcase Vent |
| 547291 | | Cover and Gasket Assy. Rocker Arm R.H. |
| 547292 | | Cover and Gasket Assy. Rocker Arm L.H. |
| 547293 | | Cover and Deflector Assy. L.H. |
| 547294 | | Cover and Deflector Assy. R.H. |
| 526343 | 2 | Defector – Rocker |
| 9776669 | 8 | Bolt – Rocker Arm Cover |
| 9776721 | | Gourmet – Rocker Arm Cover |
| 6410393 | | Cap – Oil Filler |

## EIGHT - CAMSHAFT SPECIFICATIONS

At the heart of the T/A 6.6 engine was a specific new camshaft design. This hardened cast iron alloy camshaft had a longer advertised intake and exhaust duration (274/298) and more aggressive intake and exhaust timing than the base L78 6.6 Litre engine. In comparison, the base 1977 6.6 Litre engine used camshaft number 526793, which produced less advertised intake and exhaust duration (264/264) than the W72 camshaft.

For 1977, Pontiac developed two slightly different camshafts for the T/A 6.6 engines, one for use with the automatic transmission and one for 4-speed manual transmission. Both T/A 6.6 camshafts had the same intake and exhaust durations, but differed slightly in valve timing events. The first was for the automatic transmission, engine block code **Y6** and carried factory part number 549112. Based on Pontiac Engineering documents, the 549112 camshafts were identified by a green color code between the third and fourth lodes and the stamped code was a symbol of a circle on the distributor end. Early engineering documents show the stamped code to be the in the shape of the Pontiac crest. The second was for the 4-speed manual transmission, engine block code **WA** and carried factory part number 549431. Based on Pontiac Engineering documents, the 549431 camshafts were identified by an orange color code between the third and fourth lobes and stamped code was symbol of a square on the distributor end. Pontiac advertised the lift of these two camshafts as having an intake and exhaust lift of .364 inch @ zero lash. The T/A 6.6 were the only Pontiac engines to use the number 112 and 431 camshafts.



The photo below shows the stamped codes used on the three original W72 camshafts from 1977 through 1979 model year.

***Photo Courtesy Rocky Rotella***

***(Above) 1977 & 1978-79 W72 Camshaft Stamped Code***

***Photo Courtesy Rocky Rotella***

***(Above) 1978 W72 White Color Code & 1977 W72 Orange color codes***



Pontiac changed the part number in 1978 for the camshaft used in T/A 6.6 engines, so it has been rumored for many years that a change in duration and timing characteristics was made as well. Recently, good friend and overall Pontiac performance expert Rocky Rotella, proved this rumor to be true. Comparison between all three cams indicates the 1978/79 version has a few more degrees of intake duration with more aggressive intake lobe lift and gross intake valve lift using 1.50:1 rocker arm ratio than the 1977 cams. It appears the changes in the camshaft profile would result in approx 10 hp increase over the 1977 W72 camshafts. The *Pontiac Master Parts Catalog* lists the camshaft part number 10003402 for both T/A 6.6 engine codes **X7** (automatic) and **WC** (4-speed manual).

All T/A 6.6 camshafts are unique in Pontiac performance applications, in that they are ground and installed retarded. It appears earlier Pontiac camshafts were either installed straight up or advanced. Advance in reference to cam timing means that the intake lobe center value is smaller then the exhaust lobe centerline value. For example, the earlier Ram Air 400 number 041camshaft used a 112 intake and 115 exhausts centerlines for an advance of 1.5 degrees. The hi-performance 068 camshaft have an intake at 113 and the exhaust at 119 for an advance of 3 degrees, while the 067 camshafts have both lobes at 113, and it is installed "straight up" with no advance or retard. The 1977 automatic 549112 W72 cam for example, has the intake centerline at 121 and an exhaust centerline at 110 for 5.5 degrees retard. This retarded timing tends to lower the dynamic or real compression, and is one reason the W72 engines had a bit higher static compression ratio. In general terms', retarding the camshaft tends to spread the power range a

little higher in rpm, while retaining good idle qualities for the durations used. By retarding the cam also degrades the lower rpm power slightly. The unique timing is also very likely related to emissions controls for those engines. It would appear that Pontiac redesigned the camshafts used in the T/A 6.6 engines not only to help with emissions, but for higher rpm use without sacrificing idle quality or low rpm stability. Even with this change, good horsepower was achieved from relatively low compression ratios.

### 1977 Automatic Transmission W72 Camshaft Specifications
### Part # 549112

| | |
|---|---|
| **Advertised Intake Duration** | 274 Degrees |
| **Intake Duration @ .050 inch** | 192 Degrees |
| **Open** | 16 Degrees B.T.D.C |
| **Close** | 78 Degrees A.B.D.C. |
| **Gross Lift with 1.50: rocker arm ratio** | .365 |
| **Lobe Lift** | .243 |
| **Intake Centerline** | 121 Degrees |
| **Advertised Exhaust Duration** | 298 Degrees |
| **Exhaust Duration @ .050 inch** | 210 Degrees |
| **Open** | 79 Degrees B.B.D.C. |
| **Close** | 39 Degrees A.T.D.C. |
| **Gross Lift with 1.50: rocker arm ratio** | .404 |
| **Lobe Lift** | .269 |
| **Exhaust Centerline** | 110 Degrees |
| **LSA** | 115.5 Degrees |
| **Overlap** | 55 Degrees |



### 1977 Manual Transmission W72 Camshaft Specifications
### Part # 549431

| | |
|---|---|
| **Advertised Intake Duration** | 274 Degrees |
| **Intake Duration @ .050 inch** | 192 Degrees |
| **Open** | 21 Degrees B.T.D.C |
| **Close** | 73 Degrees A.B.D.C. |
| **Gross Lift with 1.50: rocker arm ratio** | .365 |
| **Lobe Lift** | .243 |
| **Intake Centerline** | 116 Degrees |
| **Advertised Exhaust Duration** | 298 Degrees |
| **Exhaust Duration @ .050 inch** | 210 Degrees |
| **Open** | 77 Degrees B.B.D.C. |
| **Close** | 41 Degrees A.T.D.C. |
| **Gross Lift with 1.50: rocker arm ratio** | .404 |
| **Lobe Lift** | .269 |
| **Exhaust Centerline** | 108 Degrees |
| **LSA** | 112 Degrees |
| **Overlap** | 62 Degrees |

**1978 / 79 W72 Camshaft Specifications**
**Part # 10003402**

| | |
|---|---|
| **Advertised Intake Duration** | 274 Degrees |
| **Intake Duration @ .050 inch** | 192 Degrees |
| **Open** | 18 Degrees B.T.D.C |
| **Close** | 75 Degrees A.B.D.C. |
| **Gross Lift with 1.50: rocker arm ratio** | .395 |
| **Lobe Lift** | .263 |
| **Intake Centerline** | 118.5 Degrees |
| **Advertised Exhaust Duration** | 298 Degrees |
| **Exhaust Duration @ .050 inch** | 210 Degrees |
| **Open** | 73 Degrees B.B.D.C. |
| **Close** | 36 Degrees A.T.D.C. |
| **Gross Lift with 1.50: rocker arm ratio** | .401 |
| **Lobe Lift** | .267 |
| **Exhaust Centerline** | 108.5 Degrees |
| **LSA** | 113.5 Degrees |
| **Overlap** | 54 Degrees |



## NINE – HORSEPOWER TIMING SPECIFICATIONS & EMISSION CONTROLS

Like all engines of the same period, the T/A 6.6 engines horsepower and torque ratings were calculated using net ratings. The net (brake horsepower) ratings reflected the engine horsepower and torque with accessories and corrected to 85 degrees F and 29.36 in. Hg atmospheric pressure.

**1977**
**Horsepower** –200 SAE net @ 3,600 RPM

**Torque** –325 net lbs. ft @ 2,200 RPM (2,400 RPM with 4-speed)

**1978**
**Horsepower** –220 SAE net @ 4,000 RPM

**Torque** –320 net lbs. ft @ 2,800 RPM

**1979**
**Horsepower** –220 SAE net @ 4,000 RPM

**Torque** –320 net lbs. ft @ 2,800 RPM

## TIMMING SPECIFICATIONS

### 1977 Code WA 4-speed Manual

Timing - 18 degrees @ 775 rpm (Neutral)
Slow idle - 775 rpm (Neutral)
Fast idle - 1800 rpm (Neutral)
Choke - 1NR (one-notch rich)
EGR – Production Part # 7048194 – Color Code = Green
Back Pressure Transducer (BPT) – Part # 549426 – Color Code = White
Distributor – Part # 1103271
Vacuum Model – Part # 1973514
Emission Label Code - FC

### 1977 Code Y6 Automatic

Timing - 18 degrees @ 600 rpm, idle solenoid active 700 rpm (Drive with A/C)
Slow idle - 600 rpm (Drive)
Fast idle - 1800 rpm (Neutral)
Choke - 1NR (one-notch rich)
EGR – Production Part # 7048194 – Color Code = Green
Back Pressure Transducer (BPT) – Part # 10000029 – Color Code = Green
Distributor – Part # 1103271
Vacuum Model – Part # 1973514
Emission Label Code – FB



### 1978 Code WC 4-speed Manual

Timing - 18 degrees @775 rpm (Neutral)
Slow idle - 775 rpm (Neutral)
Fast idle - 1800 rpm (Neutral)
Choke - Index
EGR – Production Part # 7048194 – Color Code = Green
Back Pressure Transducer (BPT) – Part #10000029 – Color Code = Green
Distributor –Part #1103315
Vacuum Model – Part # 1973636
Emission Label Code – RW

### 1978 Code X7 Automatic

Timing - 18 degrees @ 600 rpm, idle solenoid active 700 rpm (Drive)
Slow idle - 600 rpm (Drive)
Fast idle - 1800 rpm (Neutral)
Choke - Index
EGR – Production Part # 7048194 – Color Code = Green
Back Pressure Transducer (BPT) – Part # 10000029 – Color Code = Green
Distributor – Part # 1103315
Vacuum Model – Part # 1973636
Emission Label Code RU

### 1979 Code PWH 4-speed Manual

Timing – 18 degrees @ 775 rpm (Neutral)
Slow idle – 775 rpm (Neutral)
Fast idle – 1800 rpm (Neutral)
Choke – Index
EGR – Production part # 7048194 – Color Code = Green
Back Pressure Transducer (BPT) – part # 10000029 – Color Code = Green / 10004280 / 10004784
Distributor – part # 1103315
Vacuum Model – part # 1973636
Emission Label Code - PA

## VACUUM AND MECHANICAL ADVANCE SPECFICATIONS

**1977-78 - All**
**Spark Plugs** - R45TSX @ .060
**Vacuum advance** @ crank start @ 5" hg, full @11" hg with 25 degrees maximum advance.
M**echanical advance** @ crank 0 degrees @1000 rpm, 8 degrees @1400 rpm, 20 degrees @ 4400 rpm.



**1979**
**Spark Plugs –** R45TSX @ .060
**Vacuum Advance** @ crank – start @ 6" hg, full @12" hg with 25 degrees maximum advance.
**Mechanical Advance** @ crank – 0 degrees @ 1000 rpm, 7 degrees @ 2000 rpm, 17degrees @ 4600rpm.



## EMISSION CONTROL DEVICES



### 1977 Engine Code Y6 automatic transmission

**EFE Valve** = Early Fuel Evaporation Valve. Located at the end of the driver-side exhaust manifold between where the exhaust pipe and manifold meet.

**EGR** = Exhaust Gas Recirculation.

**OC** = Oxidizing Catalyst

**SVB-TVS** = Secondary Vacuum Break Thermal Vacuum Switch is located on the back passenger-side of the air cleaner

**EGR-TVS** = Exhaust Gas Recirculation Thermal Vacuum Switch

**DS-TVS** = Distributor Spark Thermal Vacuum Switch. Located on the passenger-side cylinder head between the rear and center exhaust ports

**EFE-CV** = Early Fuel Evaporation Check Valve

**EFE/EGR-TVS** = Early Fuel Evaporation, Early Gas Recirculation Thermal Vacuum Switch. Located on the front passenger-side of the intake manifold next to the water inlet

**TAC** = Thermostatic Air Cleaner

**PCV** = Positive Crankcase Ventilation

**EEC** = Evaporative Emission Control

**BPT** = Back Pressure Transducer

For 1977, W72 400-cid engines with automatic transmissions use a spark retard delay orifice to maintain vacuum advance during quick throttle openings when coolant temperatures are below approximately 120 degrees F. This feature improves the engine response during cold engine operation. The spark retard delay orifice is by-passed thru the distributor spark TVS when the engine temperature is above approximately above 120 degrees F and full manifold vacuum is applied to the distributor. – *1977 Pontiac Service Manual*

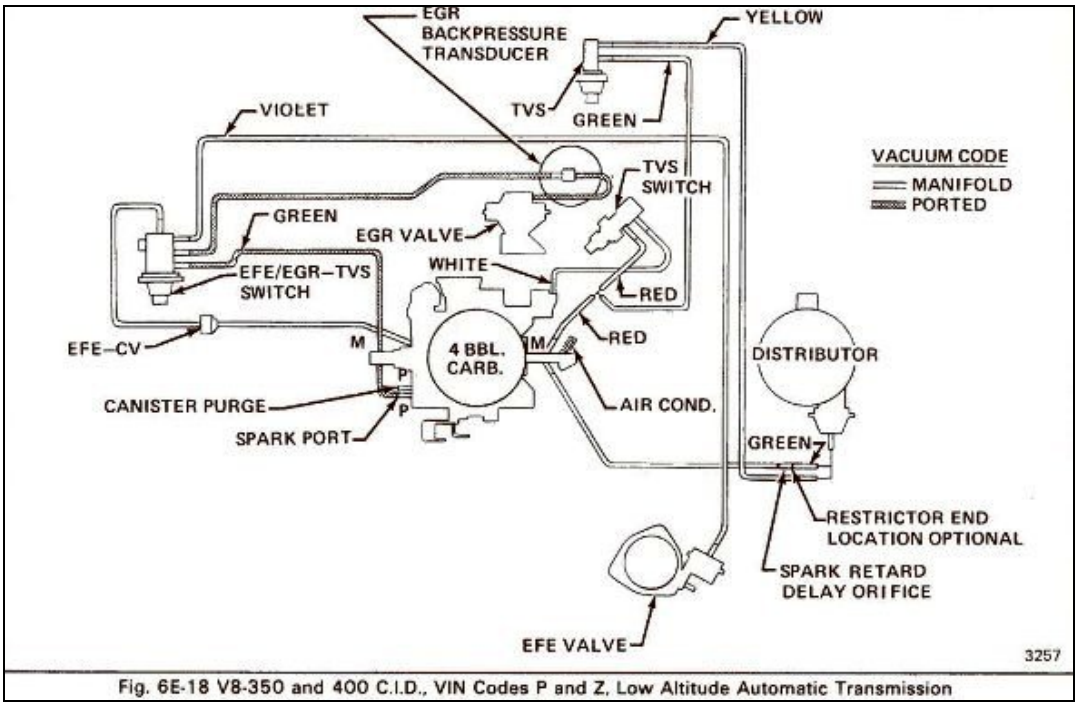


Fig. 6E-18 V8-350 and 400 C.I.D., VIN Codes P and Z, Low Altitude Automatic Transmission

***Photo courtesy 1977 Pontiac Service Manual***

## 1977 Engine Code WA manual transmission

**EFE Valve** = Early Fuel Evaporation Valve. Located at the end of the driver-side exhaust manifold between where the exhaust pipe and manifold meet.

**EGR** = Exhaust Gas Recirculation.

**OC** = Oxidizing Catalyst

**SVB-TVS** = Secondary Vacuum Break Thermal Vacuum Switch is located on the back passenger-side of the air cleaner

**EGR-TVS** = Exhaust Gas Recirculation Thermal Vacuum Switch

**DS-TVS** = Distributor Spark Thermal Vacuum Switch. Located on the passenger-side cylinder head between the rear and center exhaust ports

**EFE-CV** = Early Fuel Evaporation Check Valve

**EFE/EGR-TVS** = Early Fuel Evaporation, Early Gas Recirculation Thermal Vacuum Switch. Located on the front passenger-side of the intake manifold next to the water inlet
**TAC** = Thermostatic Air Cleaner

**PCV** = Positive Crankcase Ventilation

**EEC** = Evaporative Emission Control
**BPT** = Back Pressure Transducer

For 1977, W72 400-cid engines with manual transmissions use port vacuum for distributor spark with a coolant overheat TVS which provides full manifold vacuum to the distributor when the engine coolant temperature is above approximately 225 degrees F. – *1977 Pontiac Service Manual*



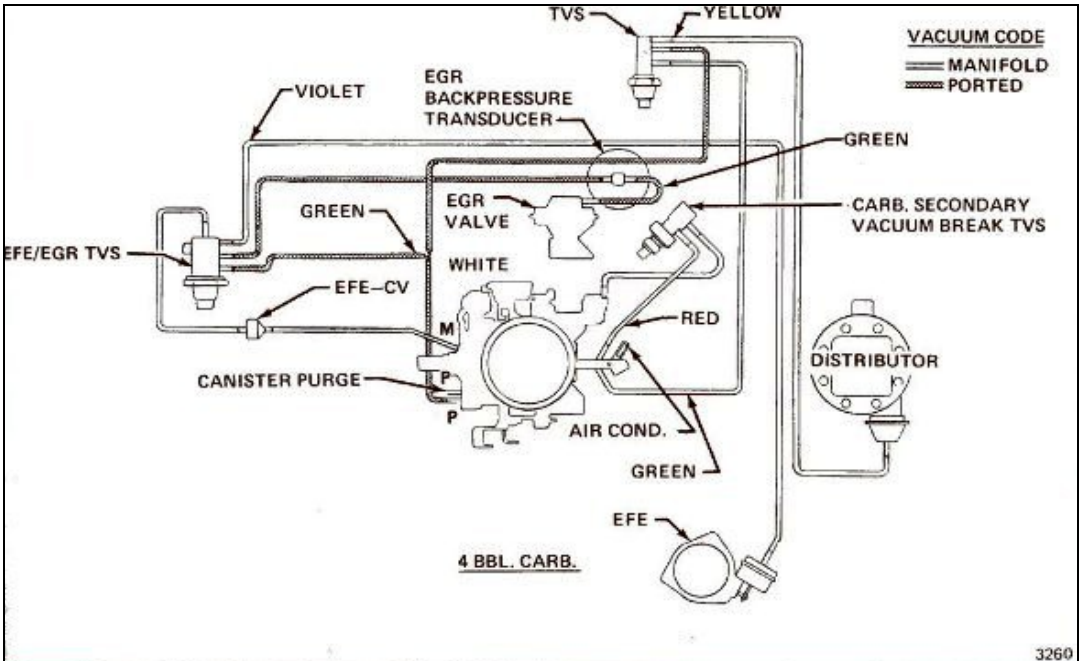



Fig. 6E-19 V8-400 C.I.D. Low Altitude Manual Transmission

***Photo courtesy 1977 Pontiac Service Manual***

## 1978 Engine Code WC manual transmission

**EFE/EGR-TVS** = Early Fuel Evaporation, Early Gas Reticulation Thermal Vacuum Switch. Located on the front passenger-side of the intake manifold next to the water inlet

**EGR** = Exhaust Gas Recirculation.

**EVE-CV** = Early Fuel Evaporation Check Valve

**DS-TVS** = Distributor Spark Thermal Vacuum Switch. This is located on the passenger-side cylinder head between the rear and center exhaust ports.

**OC** = Oxidizing Catalyst

**BP-EGR** = Back Pressure Exhaust Gas Recirculation.

**SVB-TVS** = Secondary Vacuum Break Thermal Vacuum Switch is located on the back passenger-side of the air cleaner.
**EEC** = Evaporative Emission Control

**PCV** = Positive Crankcase Ventilation

**TAC** = Thermostatic Air Cleaner



For 1978, W72 400-cid engines with manual transmissions use port vacuum for distributor spark with a coolant overheat TVS which provides full manifold vacuum to the distributor when the engine coolant temperature is above approximately 225 degrees F. – *1978 Pontiac Service Manual*

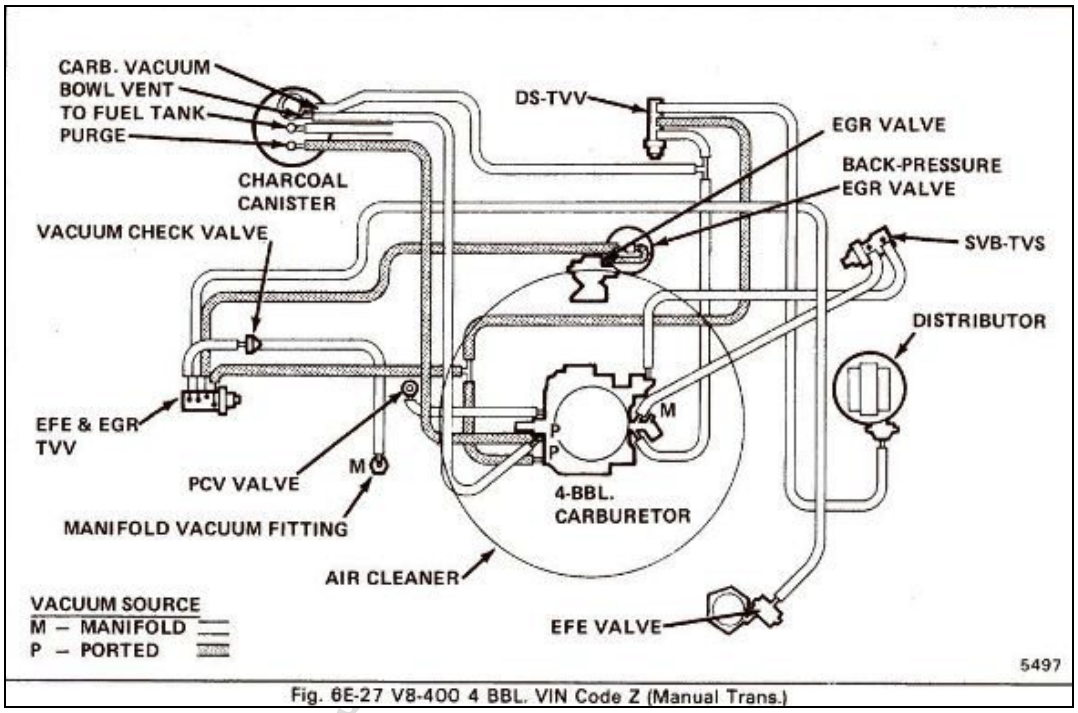


Fig. 6E-27 V8-400 4 BBL. VIN Code Z (Manual Trans.)

***Photo courtesy 1978 Pontiac Service Manual***



## 1978 Engine Code X7 automatic transmission

**EFE/EGR-TVS** = Early Fuel Evaporation, Early Gas Reticulation Thermal Vacuum Switch. Located on the front passenger-side of the intake manifold next to the water inlet

**EGR** = Exhaust Gas Recirculation.

**EVE-CV** = Early Fuel Evaporation Check Valve

**DS-TVS** = Distributor Spark Thermal Vacuum Switch. This is located on the passenger-side cylinder head between the rear and center exhaust ports.
**OC** = Oxidizing Catalyst
**BP-EGR** = Back Pressure Exhaust Gas Recirculation.

**SVB-TVS** = Secondary Vacuum Break Thermal Vacuum Switch is located on the back passenger-side of the air cleaner.

**EEC** = Evaporative Emission Control

**PCV** = Positive Crankcase Ventilation

**TAC** = Thermostatic Air Cleaner

For 1978, W72 400-cid engines with automatic transmissions use a spark retard delay orifice to maintain vacuum advance during quick throttle openings when coolant temperatures are below approximately 120 degrees F. The spark retard delay orifice is by-passed thru the distributor

spark TVS when the engine temperature is above approximately above 120 degrees F and full manifold vacuum is applied to the distributor. – *1978 Pontiac Service Manual*

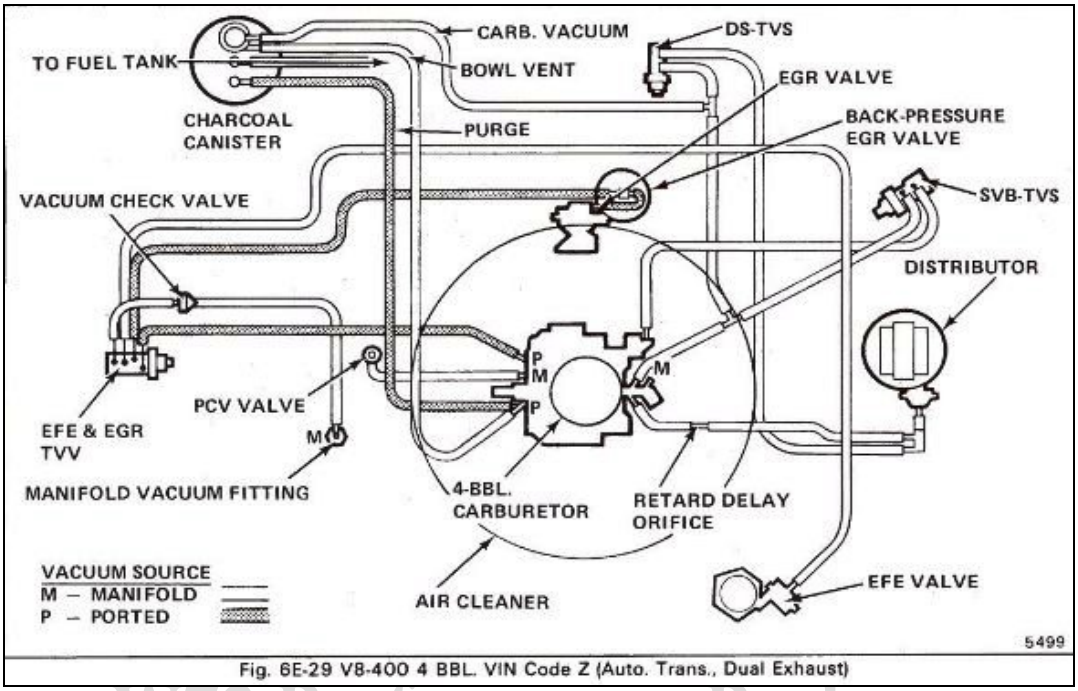


Fig. 6E-29 V8-400 4 BBL. VIN Code Z (Auto. Trans., Dual Exhaust)



***Photo courtesy 1978 Pontiac Service Manual***



## 1979 Engine Code PWH manual transmission:

**SVB-TVS** = Secondary Vacuum Break Thermal Vacuum Switch is located on the back passenger-side of the air cleaner.

**EFE/EGR-TVS** = Early Fuel Evaporation, Early Gas Reticulation Thermal Vacuum Switch. This is located on the front passenger-side of the intake manifold next to the water inlet.

**DS-TVS** = Distributor Spark Thermal Vacuum Switch. This is located on the passenger-side cylinder head between the rear and center exhaust ports.
**EFE Valve** = Early Fuel Evaporation Valve. Located at the end of the driver-side exhaust manifold between where the exhaust pipe and manifold meet.

**DS-VMV** = Distributor Spark Vacuum Modulator Valve. This Valve appears to be located on the driver-side rear intake manifold. It is visible just above the rocker cover.

**EEC** = Evaporative Emission Control
**PCV** = Positive Crankcase Ventilation

**TAC** = Thermostatic Air Cleaner

**OC** = Oxidizing Catalyst
**EGR** = Exhaust Gas Recirculation.

**EVE-CV** = Early Fuel Evaporation Check Valve.

**EGR-BPT** = Exhaust Gas Recirculation Back Pressure Transducer

For 1979 W72 400-cid engines used a full time vacuum modulator valve (DS-VMV). The DS-VMV limits the distributor spark vacuum to a calibrated value until ported vacuum applied to the control port of the DS-VMV is greater than the calibration value. When the ported vacuum is greater than the calibrated value, the distributor spark vacuum is equal to the ported vacuum signal. A coolant overheat TVS provides full manifold vacuum to the distributor when the engine coolant temperature is above approximately 208 degrees F. – *1979 Pontiac Service Manual*

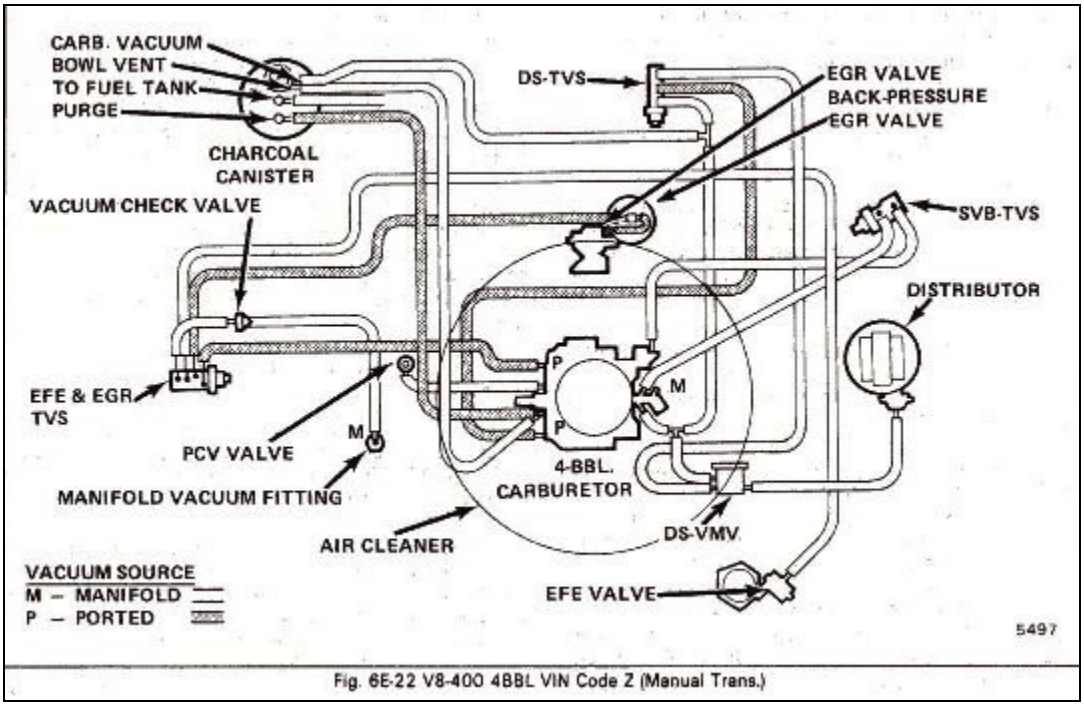


Fig. 6E-22 V8-400 4BBL VIN Code Z (Manual Trans.)

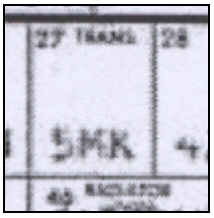
***Photo courtesy 1979 Pontiac Service Manual***

## TEN – TRANSMISSIONS & AXLE RATIO

Originally, a special version of the THM 350 automatic transmission was offered with Trans Am and Formula Firebird models optioned with the T/A 6.6 engine. For 1977, this transmission carried UPC code M38 and can be externally identified by a three-character code MK7 stamped in black ink on both sides of the transmission towards the upper front and was produced by Chevrolet Motor Division. However, for 1978, this transmission carried UPC code M33 and can be externally identified by a three-character code 5MK stamped in black on both sides of the

transmission towards the upper front. Buick Motor Division produced the 1978 M33 transmission. The production day and shift built number, transmission model and model year is stamped on the governor cover and the vehicle identification number is stamped on the lower left side of the case next to the manual shift. On the factory build sheet, in box number 27, this transmission carried code **MK** on 1977 Norwood OH and 1978 Van Nuys CA built cars while 1978 Norwood OH built cars used code **5MK**. In addition, in the option area of the build sheet, these transmissions were also identified by UPC code **<M38** in 1977 and **<M33** in 1978.

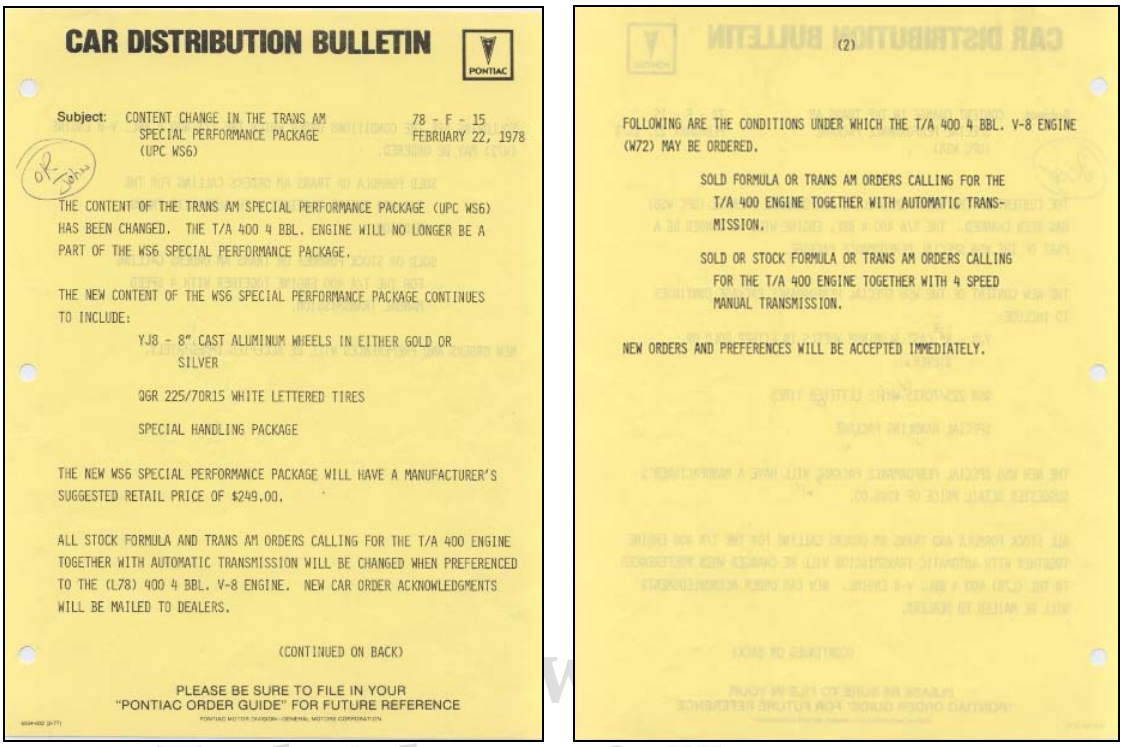

***1977 Norwood OH***
***&***
***1978 Van Nuys CA***




***1978 Norwood OH***



The automatic transmission for the T/A 6.6 engine option was to short-lived as according to Pontiac Car Distribution Bulletin 78-F-15 dated February 22, 1978, all Trans Am and Formula Firebird dealer stock orders specifying the T/A 6.6 engine with automatic transmission were cancelled and the engine application would be changed to the base L78 400-cid engine.



**CAR DISTRIBUTION BULLETIN**

PONTIAC

Subject: CONTENT CHANGE IN THE TRANS AM SPECIAL PERFORMANCE PACKAGE (UPC WS6)

78 - F - 15
FEBRUARY 22, 1978

THE CONTENT OF THE TRANS AM SPECIAL PERFORMANCE PACKAGE (UPC WS6) HAS BEEN CHANGED. THE T/A 400 4 BBL. ENGINE WILL NO LONGER BE A PART OF THE WS6 SPECIAL PERFORMANCE PACKAGE.

THE NEW CONTENT OF THE WS6 SPECIAL PERFORMANCE PACKAGE CONTINUES TO INCLUDE:

YJ8 - 8" CAST ALUMINUM WHEELS IN EITHER GOLD OR SILVER

QGR 225/70R15 WHITE LETTERED TIRES

SPECIAL HANDLING PACKAGE

THE NEW WS6 SPECIAL PERFORMANCE PACKAGE WILL HAVE A MANUFACTURER'S SUGGESTED RETAIL PRICE OF $249.00.

ALL STOCK FORMULA AND TRANS AM ORDERS CALLING FOR THE T/A 400 ENGINE TOGETHER WITH AUTOMATIC TRANSMISSION WILL BE CHANGED WHEN PREFERENCED TO THE (L78) 400 4 BBL. V-8 ENGINE. NEW CAR ORDER ACKNOWLEDGMENTS WILL BE MAILED TO DEALERS.

(CONTINUED ON BACK)

PLEASE BE SURE TO FILE IN YOUR "PONTIAC ORDER GUIDE" FOR FUTURE REFERENCE



FOLLOWING ARE THE CONDITIONS UNDER WHICH THE T/A 400 4 BBL. V-8 ENGINE (W72) MAY BE ORDERED.

SOLD FORMULA OR TRANS AM ORDERS CALLING FOR THE T/A 400 ENGINE TOGETHER WITH AUTOMATIC TRANSMISSION.

SOLD OR STOCK FORMULA OR TRANS AM ORDERS CALLING FOR THE T/A 400 ENGINE TOGETHER WITH 4 SPEED MANUAL TRANSMISSION.

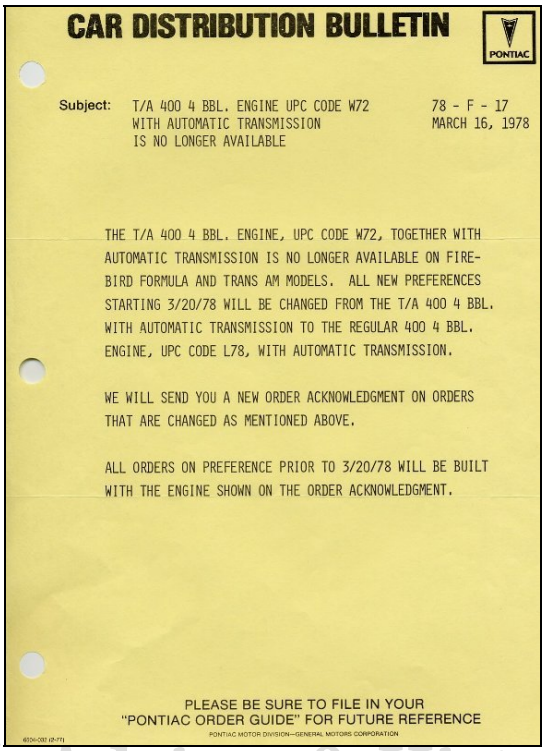
NEW ORDERS AND PREFERENCES WILL BE ACCEPTED IMMEDIATELY.

***Pontiac Bulletin showing cancellation of dealer orders for the W72 automatic combination***



Less than a month later, Pontiac issued bulletin 78-F-17 dated March 16, 1978 to its dealers stating that customer orders received on and after March 20, 1978, customers could no longer order the T/A 6.6 engine with an automatic transmission. Orders received after March 20, 1978 for the automatic transmission / T/A 6.6 combination would be sent back to the dealer for re-ordering instructions. This meant that dealers had to change the engine UPC code from W72 to L78 on the ordering form. On customer orders, the dealers had to notify the buyers that orders for this engine / transmission combination were no longer being accepted and that their car would have to be produced with the base UPC code L78 400 engine.

It is my opinion that Pontiac knew by mid 1977 they could produced only a limited number of the T/A 6.6 engines, so early in the 1978 model year, Pontiac made a decision to drop one of the transmissions to conserve the supply of engines in order to have enough for the 1979 model year, especially for the Limited Edition 10th Anniversary Trans Ams.



CAR DISTRIBUTION BULLETIN

PONTIAC

Subject: T/A 400 4 BBL. ENGINE UPC CODE W72 WITH AUTOMATIC TRANSMISSION IS NO LONGER AVAILABLE

78 - F - 17
MARCH 16, 1978

THE T/A 400 4 BBL. ENGINE, UPC CODE W72, TOGETHER WITH AUTOMATIC TRANSMISSION IS NO LONGER AVAILABLE ON FIREBIRD FORMULA AND TRANS AM MODELS. ALL NEW PREFERENCES STARTING 3/20/78 WILL BE CHANGED FROM THE T/A 400 4 BBL. WITH AUTOMATIC TRANSMISSION TO THE REGULAR 400 4 BBL. ENGINE, UPC CODE L78, WITH AUTOMATIC TRANSMISSION.

WE WILL SEND YOU A NEW ORDER ACKNOWLEDGMENT ON ORDERS THAT ARE CHANGED AS MENTIONED ABOVE.

ALL ORDERS ON PREFERENCE PRIOR TO 3/20/78 WILL BE BUILT WITH THE ENGINE SHOWN ON THE ORDER ACKNOWLEDGMENT.

PLEASE BE SURE TO FILE IN YOUR "PONTIAC ORDER GUIDE" FOR FUTURE REFERENCE

PONTIAC MOTOR DIVISION—GENERAL MOTORS CORPORATION



***Bulletin Courtesy General Motors Corporation***

***Bulletin to dealers announcing the cancellation of the W72 automatic combination for customer orders.***

These two special automatic transmissions featured a unique rally shifter, part # 351300 which allowed for manual up-shifting between gears without the fear of skipping gears or accidentally shifting into neutral. This shifter is identified as **SHIFT C FL2** on Norwood OH built cars and is located in box number 89 of the factory build sheet and **SHIFT CFLR70** in box 104 of the factory build sheet on Van Nuys CA built cars. These transmissions were also equipped from the factory with a smaller 11.75-inch torque converter producing a stall speed ratio of 2.5:1. Pontiac never advertised actual stall speed rpm. In addition, the shift speeds of this special transmission were increased from 4200 RPM as found with the THM 350 used in the standard L78, to approximately 4800 to 4900 RPM. It appears the original General Motors part number for this converter was # 25501645. The prop shaft (drive shaft) color band codes are Brown/Brown for the automatic cars and Yellow/Yellow on the 4-speed manual cars.

## UNIQUE T/A 6.6 FIREBIRD THM 350 TRANSMISSION PARTS

| | **1977** | **1978** |
|---|---|---|
| Transmission Part Number | 8640404 | 8640584 |
| UPC Code | M38 | M33 |
| External Stamped Code | MK7 | 5MK |
| -Build Sheet Code Box number 27 | MK | MK or 5MK |
| Converter | 25501645 | 25501645 |
| Shifter | 351300 | 351300 |
| -Build Sheet Code Box number 89 | SHIFT C FL2 | SHIFT C FL2 |
| -Build Sheet Code Box Number 104 | | SHIFTCFLR70 |
| Shift Control Housing | 357701 | 357701 |
| Output Shaft | 8640185 | 8640185 |
| Modulator | 3034829 | 3034829 |
| Governor | 464200 | 8640234 |
| Transmission Oil Control Valve Body | 8640462 | 8640646 |
| Speedometer Gear Build Sheet Code | 44 GRY – K | 42 GRN – K |
| (1977 Formula only with FR78x15 tires) | 45 BUE – K | |

## CRANKSHAFT – FLYWHEEL PLATE

Build Tag Code 4A



| **Part No.** | **Part** |
|---|---|
| 500464 | Complete Assy. Number |
| 499857 | Plate and Gear Assy. |
| 499859 | Plate Flywheel |
| 499858 | Gear Flywheel |
| 492246 | Bolt Flywheel to Crank |
| 499864 | Crankshaft |

**THM 350 Gear Ratios:**

| | |
|---|---|
| 1st | 2.52:1 |
| 2nd | 1.52:1 |
| Drive | 1.00:1 |
| Reverse | 1.92:1 |

## BORG-WARNER SUPER T-10 4-SPEED MANUAL TRANSMISSION

All 1977-79 T/A 6.6 engine Trans Am and Formula Firebirds with a manual transmission used the 82mm heavy-duty 4-speed transmission called Super T-10, which was produced by Borg-Warner. The Super T-10 transmission used in the W72 Trans Am and Formula models can be identified by code ZT (1977-78) or UH (1979) was stamped on the rear of the side cover face case. This transmission used an 11.0 X 6.5-inch clutch with a 2600 lbs. pressure-plate. The forward gear ratios for this transmission were 2.43:1/1.61:1/1.23:1/1.00:1 with a reverse gear of 2.35:1. Contrary to popular belief, there were no base L78 400 engine 1977 or 1978 Trans Am and Formula Firebirds produced with this or any other 4-speed manual transmission.

By reviewing 1977 thru 1979 Pontiac Firebird invoices and build sheets, it appears Pontiac used UPC code **M21** from 1977 thru 1979 to identify the 4-speed transmission. However, some 1977 order forms used UPC code **M20** in 1977. Since Pontiac used a 76mm Muncie-built light-duty 3-speed (UPC M15) and 4-speed (UPC codes M20 in 1977 and MM4 in 1978) manual transmissions with smaller engines during 1977 and 1978, the use of UPC codes M20 and M21 has caused some confusion, as the letter M would lead one to believe that this was a Muncie-built transmission. During the late 1960's and early 1970's muscle car era, Pontiac used Muncie-built 4-speed manual transmissions with both the M20 and M21 designations.

In box number 27 of the factory build sheet, transmission codes **ZT** is found on 1977-78 cars and **UH** for 1979 cars. In box 104 on a Van Nuys CA build sheet, the shifter is identified as **SHIFT *4* FL** while on Norwood OH build sheets the shifter code is located in box number 98 and is **SHIFT 4 FL**. When a customer specified a 4-speed manual transmission in either the Trans Am or Formula with a 400 engine during 1977 thru 1979, UPC code W72 Performance Package was mandatory.



## SELECTED T/A 6.6 FIREBIRD 4-SPEED MANUAL TRANSMISSION PARTS

| | 1977 | 1978 | 1979 |
|---|---|---|---|
| Transmission Part Number | 460859 | 460859 | 14000360 |
| **Note:** 1979 Transmission Code UH requires metric fasteners. | | | |
| Code | ZT | ZT | UH |
| Build Sheet code box number 27 | ZT | ZT | UH |
| Case | 6260710 | 6260710 | 6260710 |
| Main Drive Gear | 360807 | 360807 | 360814 |
| Counter Gear Shaft | 360805 | 360805 | 360810 |
| Main Drive Gear Shaft | 6260713 | 6260713 | 6260713 |
| Clutch Driven Disc Assembly | 482034 | 482034 | 482034 |
| Hurst Shifter Number | 7244 | 7244 | 0800 |
| Speedometer Gear Build Sheet Code | 20BUE-V | 21RED-T<br>21RED-S | 22GRA-T UH |
| (1977 Formula only with FR78x15 tires) | N/A | | |

## FLYWHEEL – CLUTCH ASSEMBLY

Build Tag 4-26

| Part No. | Part | Color Code |
|---|---|---|
| 527069 | Complete Assy. | |
| 482034 | Driven Plate Assy. | |
| | Spring | Pink |
| | Teeth 26 – Small | |
| | Hub Color | Purple |
| 3893236 | Cover and Pressure Plate Assy. | |
| | Tapered Fingers | |
| | Color of Fingers | Yellow/White |
| 499901 | Flywheel Assy. | |
| 499864 | Crankshaft | |

**4-Speed Gear Ratios:**

| | |
|---|---|
| 1st | 2.43:1 |
| 2nd | 1.61:1 |
| 3rd | 1.23:1 |
| 4th | 1.00:1 |
| Reverse | 2.35:1 |



## AXLE RATIOS

Part of the W72 Performance Package was a set of 3.23:1 rear gears for all 1977, 1978 automatic and 1979 4-speed cars. These gears were identified on the factory build sheet as UPC code GU5. For 1978, all 4-speed T/A 6.6 Firebirds came from the factory with 3.42:1 rear gears. The 3.42 gears were identified on the build sheet as GU6. Generally the UPC codes for the axle ratio will appear on all factory build sheets; however, I have seen Norwood, Ohio built 1978 T/A 6.6 Firebird build sheets without the axle ratio listed. The 10 bolt 8.5-inch Safe-T-Track differential was standard in all Trans Ams and optional on the Formula. The axle code, which is a two-character code, is stamped on the front passenger side axle tube to the left of the carrier case. These codes are, **PX** for all 1977 and for the 1978 automatic transmission, **PY** for 1978 4-speed and **PP** for 1979. The axle codes for non-Safe-T-Track differential 1977-78 Formulas are **PD** for all 1977 and for the 1978 automatics and **PE** for the 1978 4-speeds. These axle codes are also listed in box number 11 on the factory build sheet and appear to be as follows: **7PX** for all 1977 and **2PX** for all 1978 automatic transmission, **2PY** for 1978 4-speed manual and **4PP** for 1979 cars. I am not sure how the code appears in box number 11 of the build sheet for those 1977 and 1978 Formulas produced with the W72 Performance Package and without Safe-T-Track differential. According *to Pontiac Car Distribution Bulletin 79-F-5, August 3, 1978,* all 1979

Firebird Formula's equipped with the T/A 6.6 engine and 4-speed manual transmission have the G80 Safe-T-Track rear axle. It is quite possible that there were a small amount of 1977-78 T/A 6.6 Firebird Formulas built without a Safe-T-Track rear differential. The axle code, which is a two-character code, is stamped on the front passenger side axle tube to the left of the carrier case. For example, axle code **PX G70621** found on a 1977 Trans Am would be deciphered as; PX = Ring Gear size, G = Manufacturer, Chevrolet Gear and Axle, 062 = Julian date which is the 62nd day of 1977 or March 1, 1977, 1= is the shift when built, in this case 1st shift.

## ELEVEN - EXHAUST SYSTEM

All 1977 T/A 6.6 Firebirds used a single 2.5-inch exhaust pipe from the exhaust manifolds to the 260 cubic inch Catalytic Converter system with a single 2.25-inch exhaust pipe into a single cross flow muffler with dual 2.25-inch tail pipes with chrome splitters. Some 1977 Special Edition Trans Ams may have come from the factory with black chrome exhaust splitters. All 1978-79 T/A 6.6 Firebirds used a single 2.5-inch exhaust pipe from the exhaust manifolds to the 260 cubic inch Catalytic Converter system, and then split into 2.25-inch dual pipes with dual resonators and 2.25-inch tail pipes with chrome splitters.



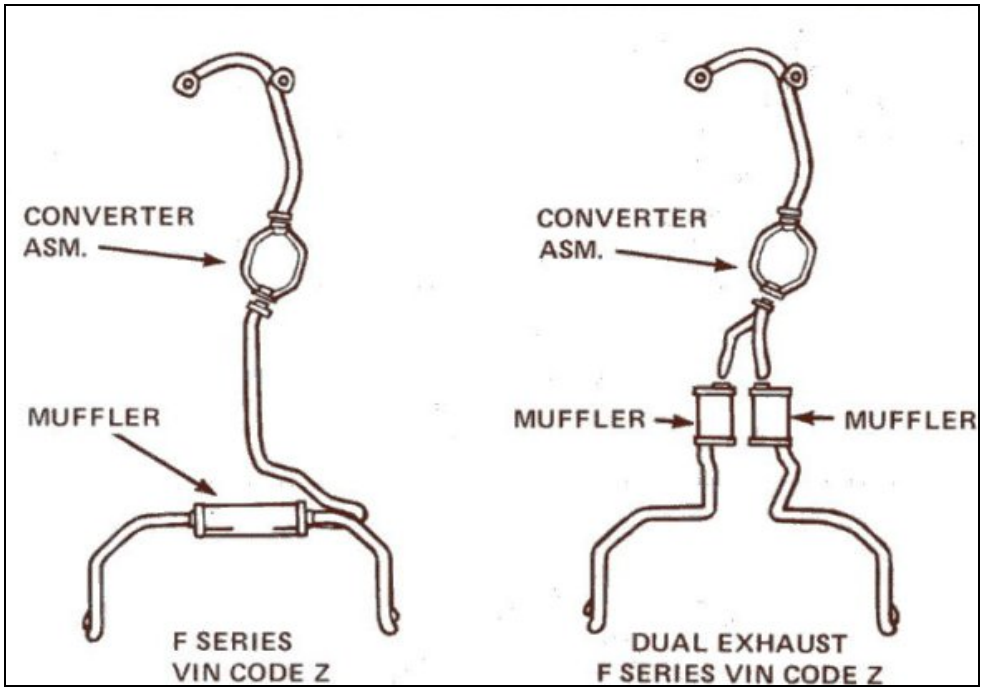



***Photo courtesy 1978 Pontiac Service Manual***

***1977 Cross flow vs. 1978-79 Dual Style Exhaust***

## 1977 PART NUMBERS

| Part | Part Number |
|---|---|
| Crossover Head Pipe | 10003452 |
| Catalytic Converter | 8998109 |
| Exhaust Pipe | 356526 |
| Muffler | 547836 |
| Tailpipe White Chrome Splitter LH | 547825 |
| Tailpipe White Chrome Splitter RH | 547824 |
| Y81/Y82 Black Chrome Tail pipe LH | 10000146 |
| Y81/Y82 Black Chrome Tail pipe RH | 10000145 |

## 1978 PART NUMBERS

| Part | Part Number |
|---|---|
| Crossover Head Pipe | 10003452 |
| Catalytic Converter | 6498393 |
| Exhaust Y-Pipe | 10002881 |
| Resonator w / Chrome Tailpipe Splitter LH | 10002883 |
| Resonator w / Chrome Tailpipe Splitter RH | 10002882 |



## 1979 PART NUMBERS

| Part | Part Number |
|---|---|
| Crossover Head Pipe | 10003452 |
| Catalytic Converter | 6498393 |
| Exhaust Y-Pipe | 10002881 |
| Muffler w / Chrome Tailpipe Splitter LH | 10010197 |
| Muffler w / Chrome Tailpipe Splitter RH | 10010196 |

## EXHASUT MANIFOLDS

The factory part numbers for the exhaust manifolds used on the T/A 6.6 engines were, 1977 - LH 499623, RH 495986 and 1978-79 - LH 10002755, RH 495986.

| Part No. | Qty | Part |
|---|---|---|
| 495986 | | R.H. Exhaust Manifold |
| 499623 | | L.H. Exhaust Manifold (1977) |
| 10002755 | | L.H. Exhaust Manifold (1978-79) |
| 9423537 | 12 | Bolt – Exhaust Manifold (Torque 25-40 lbs. ft.) |
| 9779596 | 8 | Washer – Exhaust Manifold |
| 499391 | 2 | Gasket – Exhaust Manifold |

## TWELEVE - EXTERIOR IDENIFICATION AND SPECIAL OPTIONS

Two *T/A 6.6* decals externally identified all 1977 thru 1979 Trans Ams equipped with the W72 Performance Package on the shaker scoop. The decal design of the base 1977 Trans Am was the same block style letters used on the earlier 1973-1976 cars.


***1977 style shaker decal***


***1978-79 style shaker decal***



The 1978 and 1979 base and 1978 Y88 gold special edition cars used the new large rounded letter design. The 1977 Y81 and Y82 and 1978 Y82 and Y84 black special edition cars used the antique gold "Old English" style decals. The 1979 Y84 black special edition used the same large rounded letter design as the base cars.

During 1977, two different shaker scoop designs were used. The first scoop used in 1977 was sealed low profile design with an emphasized centerline running the length of the scoop. The rear opening height of this scoop measured 1 1/8$^{th}$ inches at its tallest point. From the base of the scoop to the tallest point, the shorter scoop measures 3 1/8$^{th}$ inches. The part numbers for this scoop are 547014 with the L78 400 engine and 547015 with the L80 403 engine

Beginning with 400 cid car VIN 2W87Z7N215199 produced on May 19, 1977 and 403 cars VIN 2W87K7N231751 produced on June 2, 1977, a newly redesigned taller scoop with a de-emphasized center accent line was used. The rear opening height of this scoop measured 1 1/2 inches at its tallest point. From the base of the scoop to the tallest point, this new scoop measures 3 3/8$^{th}$ inches. The new part numbers used were 10002474 with the L78 400 engine and 10002473 with the L80 403 engine. This same basic design was used from late 1977 thru 1981 with the exception of different spacers used between the scoop and air cleaner to accommodate different engines. No external engine identification was used on the Firebird Formula.

Continued research on the 1977-79 shaker scoops show part number according to a 1977 dealer bulletin for the low-profile 1977 400-cid scoop is listed as 547014 however the part number molded on the inner area is 547021. I have also found the molded part number of 1977 taller profile 400-cid scoop is 549553 while the dealer bulletin lists the part number change to 10002474. To understand the differences in numbers, the taller shaker scoop introduced later during 1977 with molded part number 549533 was superseded by part number 10010213 for the 1978 model year and beyond. If you follow Pontiac part numbers closely you will see this pattern of superseded numbers. The reason for the different catalog part numbers, those are assigned to the different applications, example 400-cid vs. 403-cid vs. 301-cid and so on. So the basic shaker scoop will carry the same molded part number, however when fitted with different bases for the different engine applications catalog part numbers were assigned to each application. It appears all shaker scoops were produced by the Barnum Bros, Fiber Co.

## SERIAL NUMBER IDENTIFICATION



All 1977-79 T/A 6.6 and 1977-78 standard 6.6 Litre engine Firebirds use the same vehicle identification number fifth digit engine letter code Z. Since both 1977 and 1978 400-cid engines used the same serial number letter code, more research will be needed to identify an original T/A 6.6 car than just looking at the serial number. Since only one 400-cid engine was available during the 1979 model year, original T/A 6.6 cars can be verified by simply looking at the vehicle identification number. To help verify an original numbers matching car with its original block, the car's VIN number is stamped on the passenger-side lower front-machined surface of the block next to the water pump.

## WS6 TRANSAM SPECIAL PERFORMANCE PACKAGE

At the start of the 1978 model year, Pontiac introduced a new optional suspension package for the Trans Am. This new suspension carried UPC code WS6 and was called *"Trans Am Special Performance Package"*. On the build sheet, this suspension was identified as WS6 - T/AM Mark 1V. During 1978, the WS6 suspension was available **only** on the Trans Am and left Firebird Formula buyers with the standard Trans Am suspension. The WS6 suspension used the standard Trans Am front 1.250-inch stabilizer bar and springs, however changes were made to other specific suspension pieces as well as the tire type.

**Special WS6 Suspension Features**

- 15 X 8 inch Cast Aluminum Wheels UPC code YJ8. For clarification, the gold wheels were painted solid gold including the ribbed edges. The gray wheels have polished ribbed edges.
- 225/70R15 Goodyear white lettered steel belted radial tires UPC code QGR. The original plan was to have both white letter and black wall versions of this special tire. However, listed in *Pontiac Car Distribution Bulletin 78 - F- 5, July 29, 1977,* UPC code QGQ 225/70R15 black wall tire had been cancelled.
- Quicker steering ratio, 14:1 straight ratio instead of variable ratio for standard Trans Am. Part # 7829773
- .750-inch rear stabilizer bar instead of .612-inch standard Trans Am bar. Part # 10000606.
- Specific rear springs. Part # 481132
- Specific rear shocks. Part # 22012401
- Specific front shocks. Part # 22012400
- Specific rear stabilizer bar bushings. Part # 10000784
- Specific rear stabilizer bar insulators. Part # 494600
- Specific rear spring shackle haves. Part # 499473

For 1979, Pontiac re-named UPC Code WS6 as *"WS6 Special Performance Package"*. The change in the name was due to the fact that the WS6 was now available on the Firebird Formula. The 1979 WS6 package contained the same special suspension pieces as the 1978 version, but now added, UPC code J65 front and rear disc brakes which were now a mandatory option when the W72 engine was ordered and the 1979 gold 8-inch cast aluminum wheels have polished ribbed edges instead of painted as they were in 1978. In other words, the price of WS6 package included the J65 rear disc brakes. Pricing for the 1979 WS6 package is listed under T/A 6.6 Option Codes and Pricing section.



It is important to note, that all 1979 Y89 10th Anniversary Trans Ams were produced with the WS6 and J65 rear disc brake options. Not all 1979 Y84 Trans Ams will have WS6, however, the 1,107 W72 engine cars will have WS6. It is possible to have a 1979 Olds 403 or Pontiac 301 engine Y84 Trans Am with the standard 7-inch aluminum wheels and J65 front and rear disc brakes.

Additionally, in mid-December 1978, Pontiac released a new suspension package called "*Special Handling Package"* and carried UPC code WS7. This suspension package was identical to the WS6 minus UPC code J56 front and rear disc brakes. The WS7 handling package was not available with code UPC L78, T/A 6.6 engine or the Y84 black and gold special edition Trans Am. It appears the WS7 was available on both the 1979 Firebird Formula and Trans Am. The cost for the WS7 Package was $284.00. The 1979 WS7 production accounted for 11.2% of the total Trans Am and Formula production or approximately 15,899 cars.

## ASSEMBLY PLANTS

All 28,668 1977 W72 Firebirds were assembled at the Norwood, OH. However, beginning with the 1978 production, due to the increasing demand of Camaros and Firebirds General Motors added another assembly plant located in Van Nuys, CA. It is unknown how many 1978 W72 Firebirds were built at each plant. Today both plants no longer exist.

## FOURTEEN - PRODUCTION NUMBERS

Between 1977 and 1979, there were 350,793 Firebird Trans Am and Formulas produced (279,796 Trans Ams and 70,997 Formulas). During the same period, 72,247 Firebirds were produced with the UPC code W72 Performance Package. Of those, 36,915 were automatic and 35,332 were 4-speed manuals. While that may seem like quite a few, it equates to only 20.6 % of the total 1977-79 Trans Am and Formula production.

### 1977 W72 Production



| | Auto | 4-speed | Total |
|---|---|---|---|
| Trans Am | 14,775 | 11,402 | 26,177 |
| Formula | 756 | 1,735 | 2,491 |
| | 15,531 | 13,137 | 28,668 |

During 1977, Pontiac produced a total of 69,609 Firebird Trans Am and Formulas with the L78 400-cid engine. This number includes the W72 Performance Package since it was an option that could be added to the L78 400-cid engines. According to production records provided by *Pontiac Historic Services*, in 1977, Pontiac produced 28,668 Firebirds (Trans Am & Formula) with the W72 Performance Package and 40,941 Firebirds (Trans Am and Formulas) with the base L78 400-cid engine. Pontiac production records show a total of 13,137 Firebirds were produced with UPC Code M21 4-speed manual. The M21 4-speed manual was in reality a heavy-duty Borg Warner Super T-10 and was only available with the W72 engine. Early Pontiac production records show 11,402 Trans Ams produced with the 4-speed manual transmission. Based on that number, 1,735 Formulas would have been produced with the W72 engine and 4-speed transmission. Early production records indicate 14,775 Trans Ams were produced with the W72 engine and automatic transmission. Based on that number, 756 Formulas would have been produced with the W72 engine and automatic transmission. Base L78 400-cid engine production included 36,092 Trans Ams and 4,849 Formulas.

Finally, of the 1,377 1977 Can Ams produced, T/A 6.6 production figures are unknown since some Can Ams were produced with the L80 Oldsmobile 403-cid engine. Like the Firebird

production figures, the W72 Performance Package used with the WW3 Can Am is included in the total L78 400-cid LeMans production numbers. Unfortunately, the T/A 6.6 Can Am production figure is unknown.

### 1978 W72 Production

| | Auto | 4-speed | Total |
|---|---|---|---|
| Trans Am | N/A | 12,692 | N/A |
| Formula | N/A | 810 | N/A |
| | 21,384 | 13,502 | 34,886 |

Productions numbers for the 1978 model year are confusing at best as there seems to be many misunderstandings with actual W72 Firebird production. According to production records provided by *Pontiac Historic Services,* during 1978 Pontiac produced 88,741 Firebird Trans Am and Formulas with the L78 400-cid engine. Like 1977, the W72 Performance Package was an option on the L78 400-cid engine. Fortunately Pontiac production records list 34,886 Firebirds (Trans Am & Formula) produced with the W72 Performance Package. Early production records list 12,692 Trans Am produced with UPC code M21 4-speed manual transmission. Current Pontiac production records list 13,502 Firebirds produced with UPC code M21 4-speed manual transmission. Based on these numbers, we can conclude that 810 Firebird Formulas were produced in 1978 with the W72 engine and 4-speed manual transmission. All 1978 Firebirds produced with UPC code M21 4-speed manual transmission were W72 cars. Unfortunately, 1978 Trans Am and Formulas produced with the W72 Performance Package and automatic transmission is impossible to separate at this time. Pontiac production records show 75,239 Firebird Trans Am and Formulas were produced with the L78 400-cid and W72 400-cid engines and automatic transmissions. According to the early production records, 70,590 Trans Ams were produced in 1978 with automatic transmissions. Based on this number we can conclude 4,649 L78 400-cid and W72 400-cid Formulas were produced with automatic transmissions. By carefully analyzing production records, we can establish that 21,384 W72 Firebirds (Trans Am and Formula) were produced with an automatic transmission.



All 1978 individual Trans Am production numbers appear to have come from the same sources that claim only 4,112 W72 4-speeds and 4,139 automatic Trans Ams were produced, which I have verified these two to be incorrect. While some of these numbers per model (Y84,Y82,Y88) have been used and accepted in the hobby I have no way to positively say these are accurate and should be stated as "accepted" numbers or "believed to be" but not yet verified.

New for 1978 was the WS6 Trans Am Performance Package. At the start of the 1978 production, the WS6 Trans Am Performance Package was part of the W72 Performance Package, but by October 1977 a W72 Trans Am could be ordered minus the WS6 Package. During 1978, Pontiac produced 28,239 Trans Ams with WS6. The WS6 production accounted for roughly 30% of total 1978 Trans Am production. It is unclear how many 1978 Trans Ams were produced with W72 and WS6.

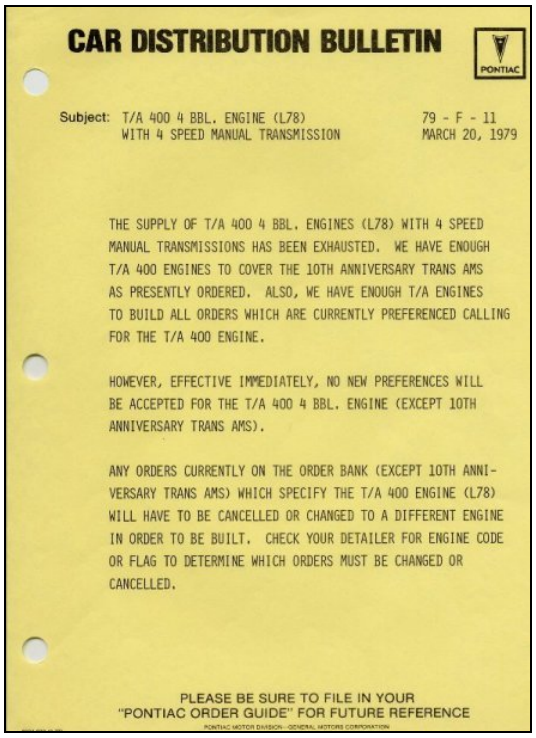
### 1979 W72 Production

| | Auto | 4-speed | Total |
|---|---|---|---|
| Trans Am | 0 | 8,326 | 8,326 |
| Formula | 0 | 367 | 367 |
| | | 8,693 | 8,693 |

Pontiac production records provided by *Pontiac Historic Services* list the W72 engine production numbers under the L78 code. Total 1979 L78/W72 Firebird production was 8,693 cars. All 1979 Firebirds produced with the W72 Performance Package came with UPC code M21 4-speed transmission, WS6 Special Performance Package and J65 4-wheel disc brakes. Pontiac production records show 8,326 Trans Ams produced with the W72 Performance Package, 3,982 cars at the Norwood, OH assembly plant and 4,344 cars at the Van Nuys CA assembly plant. Pontiac production records also show 367 Formulas were produced in 1979 with the W72 Performance Package, 152 cars at Norwood, OH assembly plant and 215 cars at the Van Nuys, CA assembly plant. Since the supplies of T/A 6.6 engines were limited, they were being "Zone Allocated" by Pontiac with preference being given to the 10th Anniversary Trans Am models.



During 1979, Pontiac produced 141,958 Firebird Trans Ams and Formulas. Of that number, only 33,810 came with the WS6 Special Performance Package or roughly 24% of the total 1979 Trans Am and Formula production.



**CAR DISTRIBUTION BULLETIN**

Subject: T/A 400 4 BBL. ENGINE (L78) WITH 4 SPEED MANUAL TRANSMISSION

79 - F - 11
MARCH 20, 1979

THE SUPPLY OF T/A 400 4 BBL. ENGINES (L78) WITH 4 SPEED MANUAL TRANSMISSIONS HAS BEEN EXHAUSTED. WE HAVE ENOUGH T/A 400 ENGINES TO COVER THE 10TH ANNIVERSARY TRANS AMS AS PRESENTLY ORDERED. ALSO, WE HAVE ENOUGH T/A ENGINES TO BUILD ALL ORDERS WHICH ARE CURRENTLY PREFERENCED CALLING FOR THE T/A 400 ENGINE.

HOWEVER, EFFECTIVE IMMEDIATELY, NO NEW PREFERENCES WILL BE ACCEPTED FOR THE T/A 400 4 BBL. ENGINE (EXCEPT 10TH ANNIVERSARY TRANS AMS).

ANY ORDERS CURRENTLY ON THE ORDER BANK (EXCEPT 10TH ANNIVERSARY TRANS AMS) WHICH SPECIFY THE T/A 400 ENGINE (L78) WILL HAVE TO BE CANCELLED OR CHANGED TO A DIFFERENT ENGINE IN ORDER TO BE BUILT. CHECK YOUR DETAILER FOR ENGINE CODE OR FLAG TO DETERMINE WHICH ORDERS MUST BE CHANGED OR CANCELLED.

PLEASE BE SURE TO FILE IN YOUR
"PONTIAC ORDER GUIDE" FOR FUTURE REFERENCE

PONTIAC MOTOR DIVISION - GENERAL MOTORS CORPORATION

***End of an Era***



I would like to thank Jim Mattison with *Pontiac Historic Services* for providing some very key production figures. These key figures have helped reveal most of the W72 Formula production numbers which were previously unknown and helped verify those W72 production numbers already known.

| Year/Model | Transmission | Production |
|---|---|---|
| 1978 Y82 Trans Am | Automatic | N/A |
| 1978 Y84 Trans Am | Automatic | N/A |
| 1978 Y88 Trans Am | Automatic | N/A |
| 1978 Base Trans Am | Automatic | N/A |
| 1978 Firebird Formula | Automatic | N/A |
| 1978 Y84 Trans Am | 4-Speed Manual | 20* |
| 1979 Firebird Formula | 4-Speed Manual | 367 |
| 1977 Y81 Trans Am | 4-Speed Manual | 384 |
| 1978 Y82 Trans Am | 4-Speed Manual | 489* |
| 1977 Y81 Trans Am | Automatic | 549 |
| 1977 Firebird Formula | Automatic | 756 |
| 1978 Firebird Formula | 4-Speed Manual | 810 |
| 1979 Y84 Trans Am | 4-Speed Manual | 1,107 |
| 1978 Y88 Trans Am | 4-Speed Manual | 1,267* |
| 1977 Firebird Formula | 4-Speed Manual | 1,735 |
| 1979 Y89 Trans Am | 4-Speed Manual | 1,817 |
| 1979 Base Trans Am HT | 4-Speed Manual | 2,485 |
| 1977 Y82 Trans Am | 4-Speed Manual | 2,699 |
| 1979 Base Trans Am T-Top | 4-Speed Manual | 2,917 |
| 1977 Y82 Trans Am | Automatic | 3,760 |
| 1977 Base Trans Am | 4-Speed Manual | 8,319 |
| 1977 Base Trans Am | Automatic | 10,466 |
| 1978 Base Trans Am | 4-Speed Manual | 10,916* |

***Production numbers cannot be verified based on actual Pontiac records at this time**



## FIFTEEN – PERFORMANCE

Many road test articles have been written about Firebirds with the W72 Performance Package. Unfortunately many are very inaccurate as to the performance of these cars, especially the 1977. Overall, the 1977-79 T/A 6.6 Firebirds, were good for 15.20's - 15.60's seconds @ 90-94 mph quarter-mile times straight off the showroom floor. The 1978 cars with 4-speed manual transmissions may be slightly quicker due to the use of 3.42 rear gears. It has been shown with minor tuning; high 14-sec quarter mile times are within reach.


*Photo courtesy Super Stock Magazine*

***1977 T/A 6.6 Trans Am with an automatic transmission smoking its rear tires as it leaves the line.***



The following lists of magazines are believed to have tested legitimate 1977-79 T/A 6.6 optioned Firebirds.

| Magazine | Issue |
|---|---|
| *Super Stock & Drag Illustrated* | *May 1977* |
| *Street Power* | *Jun 1977* |
| *Street Racer* | *Oct 1977* |
| *Car Craft* | *Feb 1978* |
| *Road Test* | *Spring 1978* |
| *Hi-Performance Cars* | *April 1978* |
| *Road & Track* | *Sept 1978* |
| *Hi-Performance Cars* | *Sept 1978* |
| *Popular Hot Rodding* | *Dec 1978* |
| *Car & Driver* | *Jan 1979* |
| *Hot Rod* | *Feb 1979* |

## A FINAL THOUGHT

When researching something, it's almost always an on going project as new information is discovered. This is especially true when researching a particular automobile. There are many variables that must be deciphered and in some cases, they may never be fully resolved. In the case of the T/A 6.6 engine, my research continues as I try to discover new facts.

The 1977-79 T/A 6.6 were the last hi-performance Pontiac 400-cid engine. Due to tightening emission standards, the W72's future was doomed from the beginning, but the dedication of a few at Pontiac was to give enthusiasts one last chance at a hi-performance big cubic-inch engine. For

many years, speculation and unknown facts clouded the history of the T/A 6.6 engine. The information provided here is result of accurate information that is slowly being uncovered.

## REFERENCES

Sources for some of this information came from Pontiac service and technical bulletins, Pontiac memos, car distribution bulletins, 1977 factory engineering documents, Motor Vehicle Manufactures Association (MVMA) specification sheets, Jim Mattison at Pontiac Historic Services (PHS) and Street Power Magazine (Joe Oldham), June 1977.

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