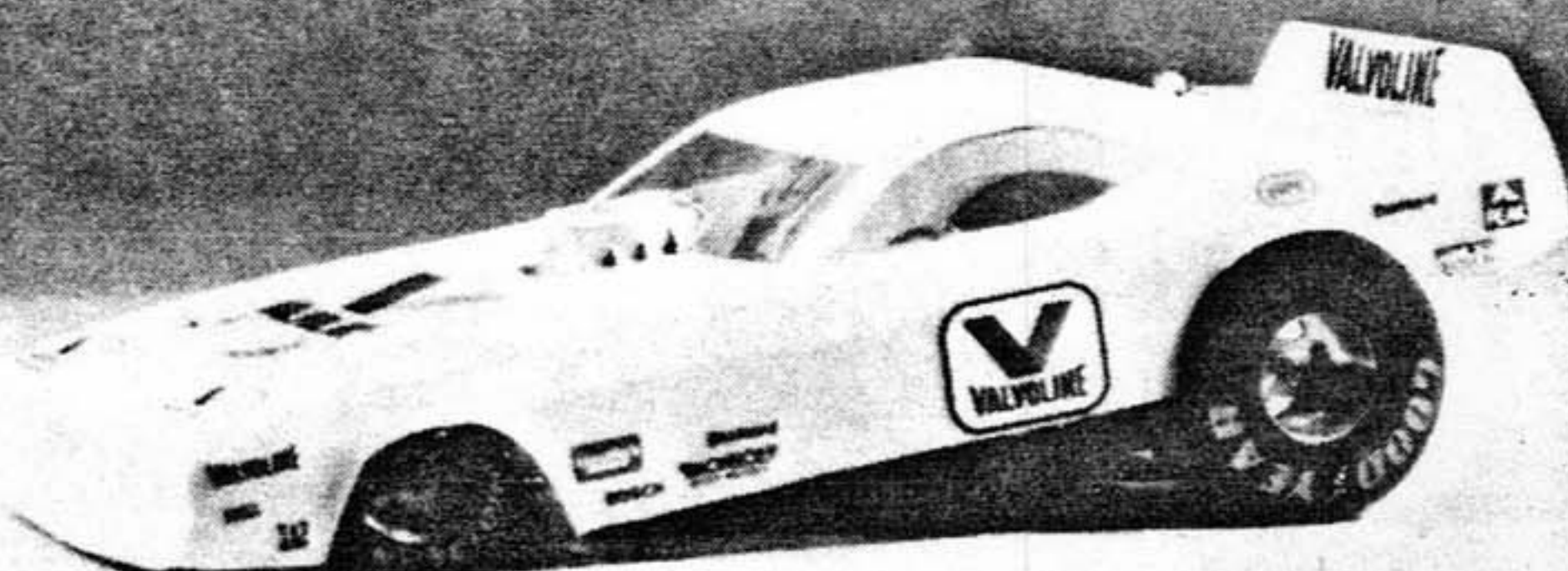
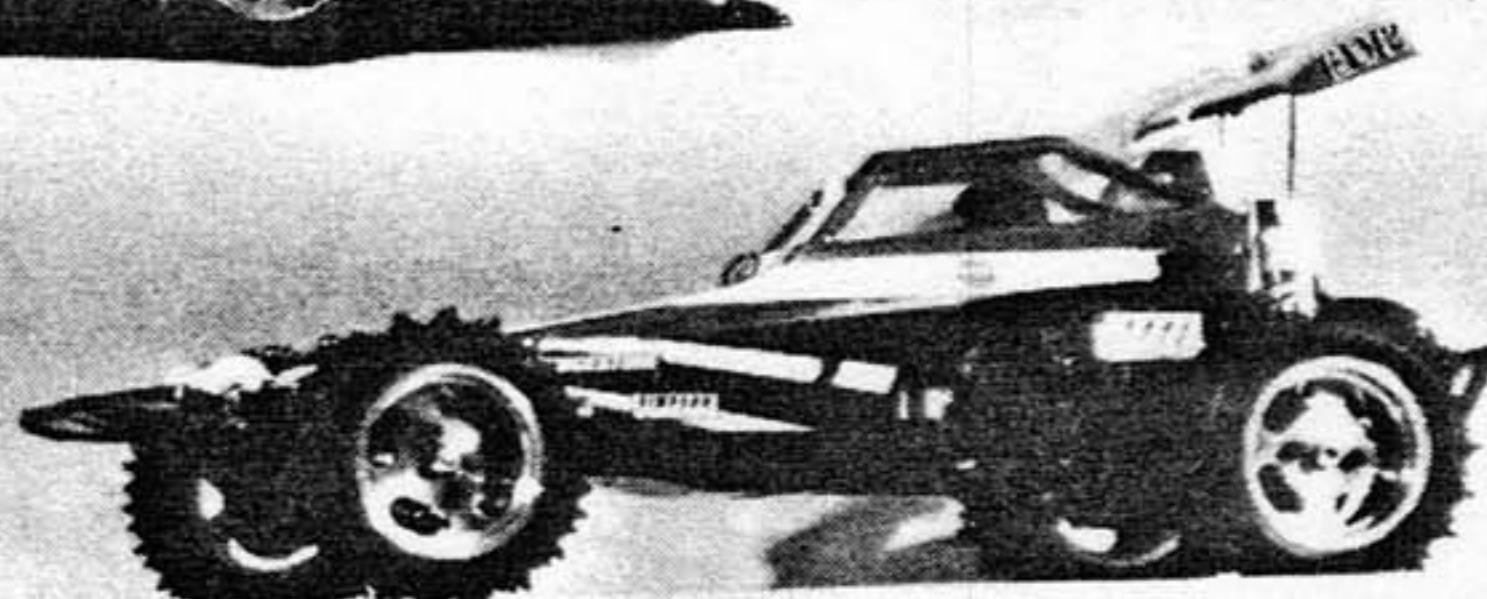
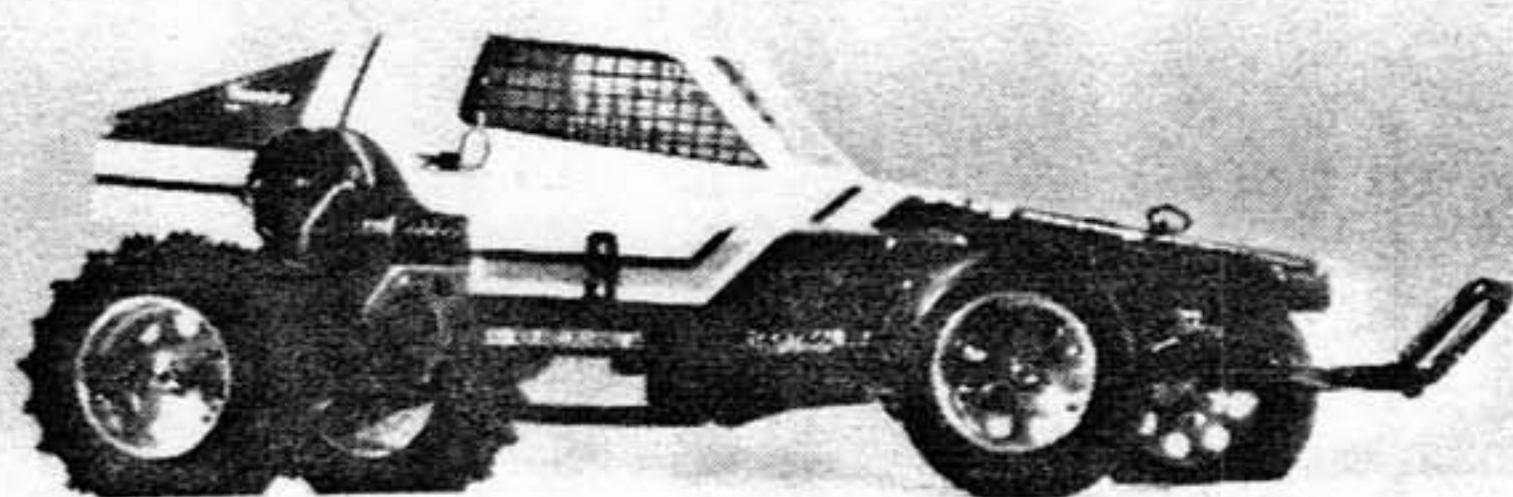
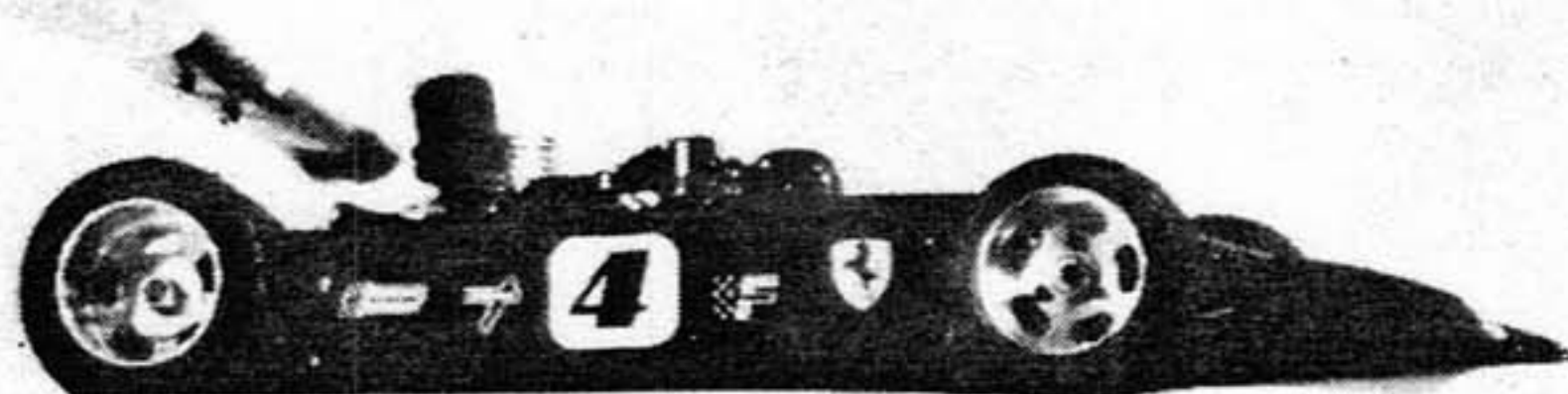


Mini-Mags[®]

by

ADVANCE



Advance Engineering & Mfg. Co. is owned and operated by Ralph A. Kulin and his family. Ralph's background is in the engineering and design of medical equipment and he holds several patents for those products. Hobbies have always been his source of relaxation and enjoyment and so the opportunity to enter the hobby industry full time was an exciting prospect.

Ralph and his son, Tim, made the first pair of Mini-Mags® for their own R/C car and the response by everyone who saw them was so overwhelming that Ralph decided to use his many years of experience in the engineering and design field to start his own company and produce Mini-Mags®. The next logical step was to import the Grand Prix Tires from England; next came the development of the Universal Wheel System; and now the most recent addition to the product line is a kit of a 1/12 scale "funny car" dragster.

The company has expanded to a shop located in the mountains of Colorado, and the employees are kept busy producing Mini-Mags® and working on the many products that are in various stages of development.

Advance Engineering has a machine shop capable of doing contract work and our engineering services are always available to turn good ideas into marketable products.

It is a pleasure doing business with all of our customers across the U.S. and Canada and we thank you all for your support. It is greatly appreciated.

ADVANCE ENGINEERING & MFG. CO.

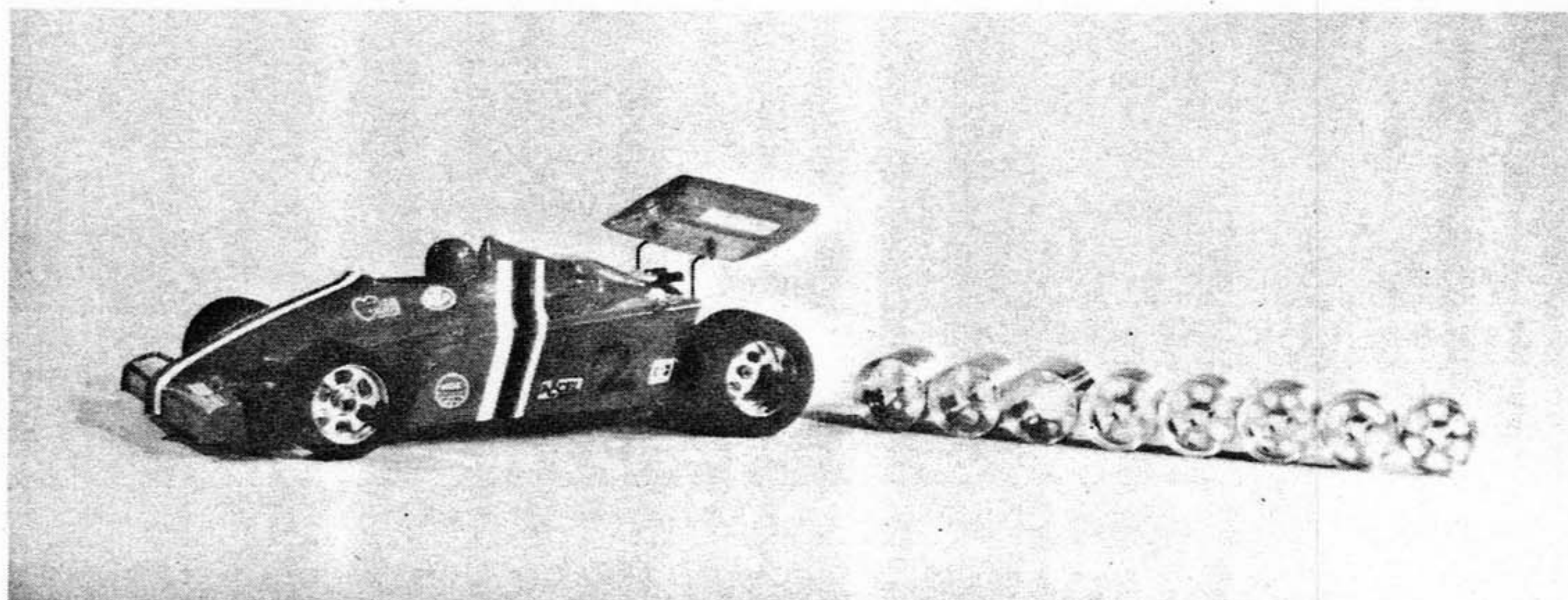
180 S. Hwy. 67
P.O. Box 766
Woodland Park, CO 80866
(303) 687-2626

***Mini-Mags are Beautiful, One
Piece Aircraft Quality Aluminum
Wheels for 1/12th, 1/10th, 1/8th &
1/4th Scale On-Road & Off-Road
Radio Controlled Model Cars***

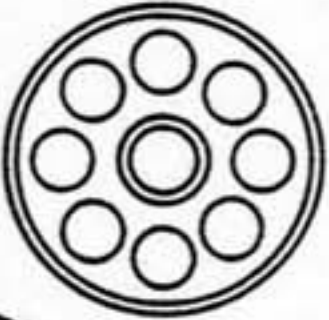
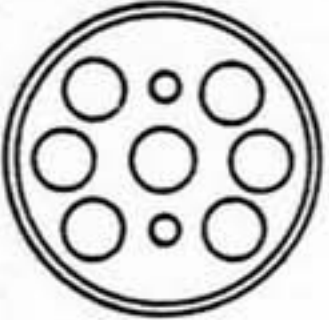
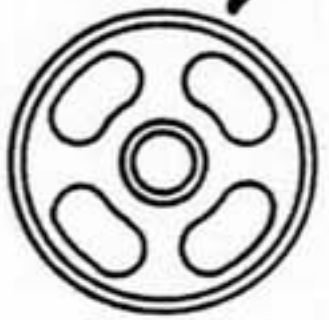


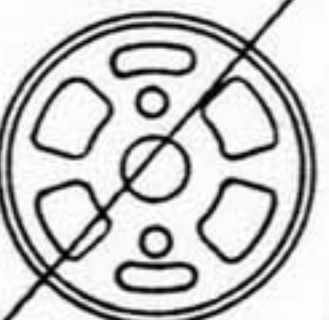
Revised 11 / 87

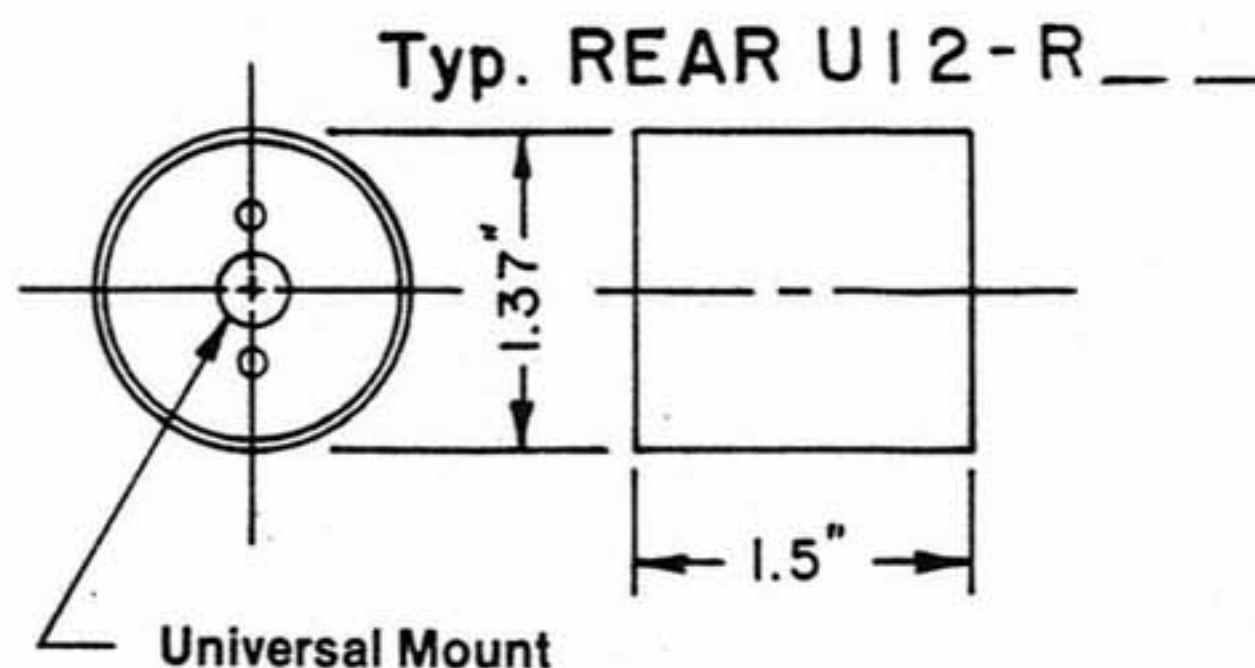
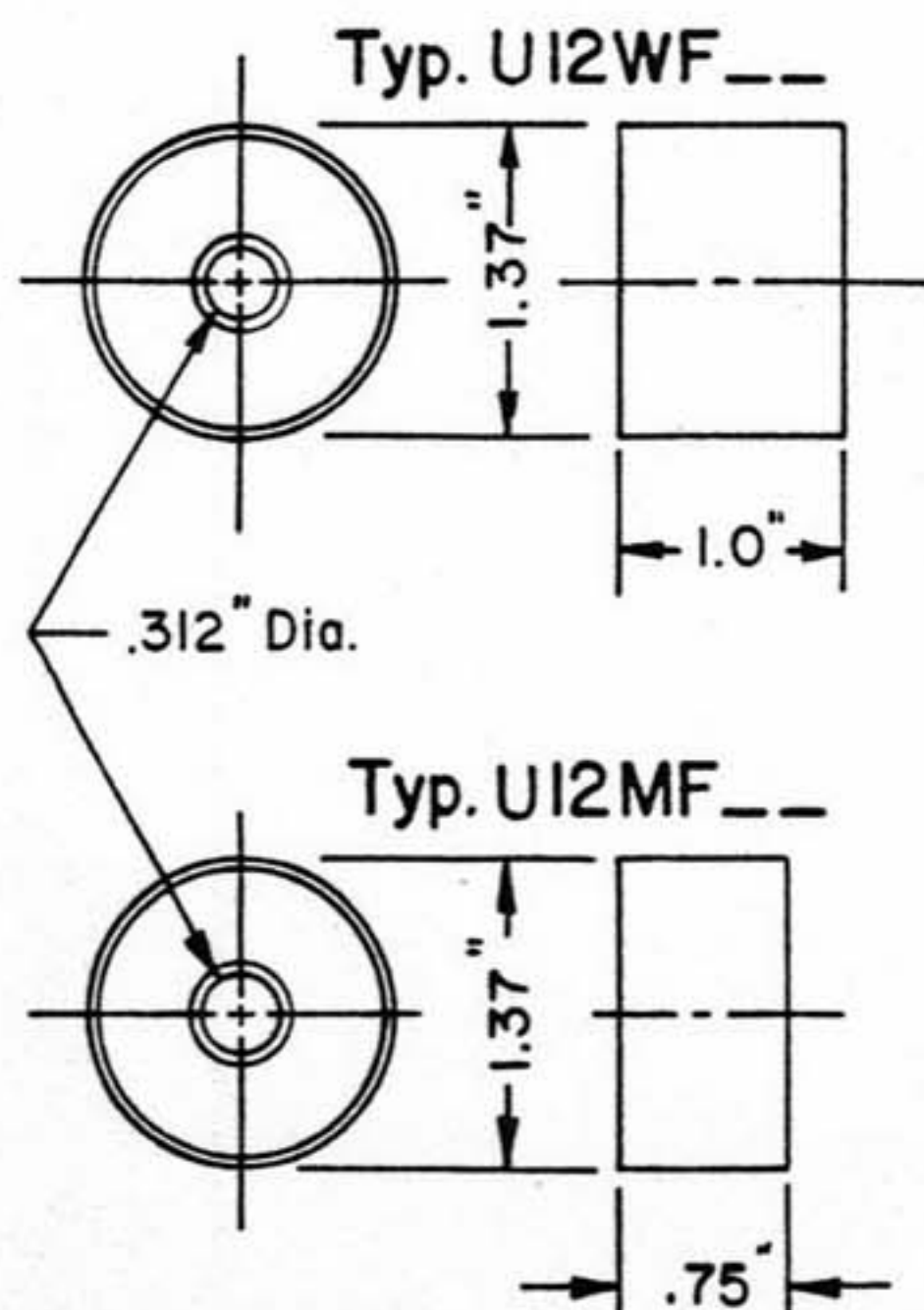
Prices subject to change without notice.

1/12th Scale Mini-Mags®



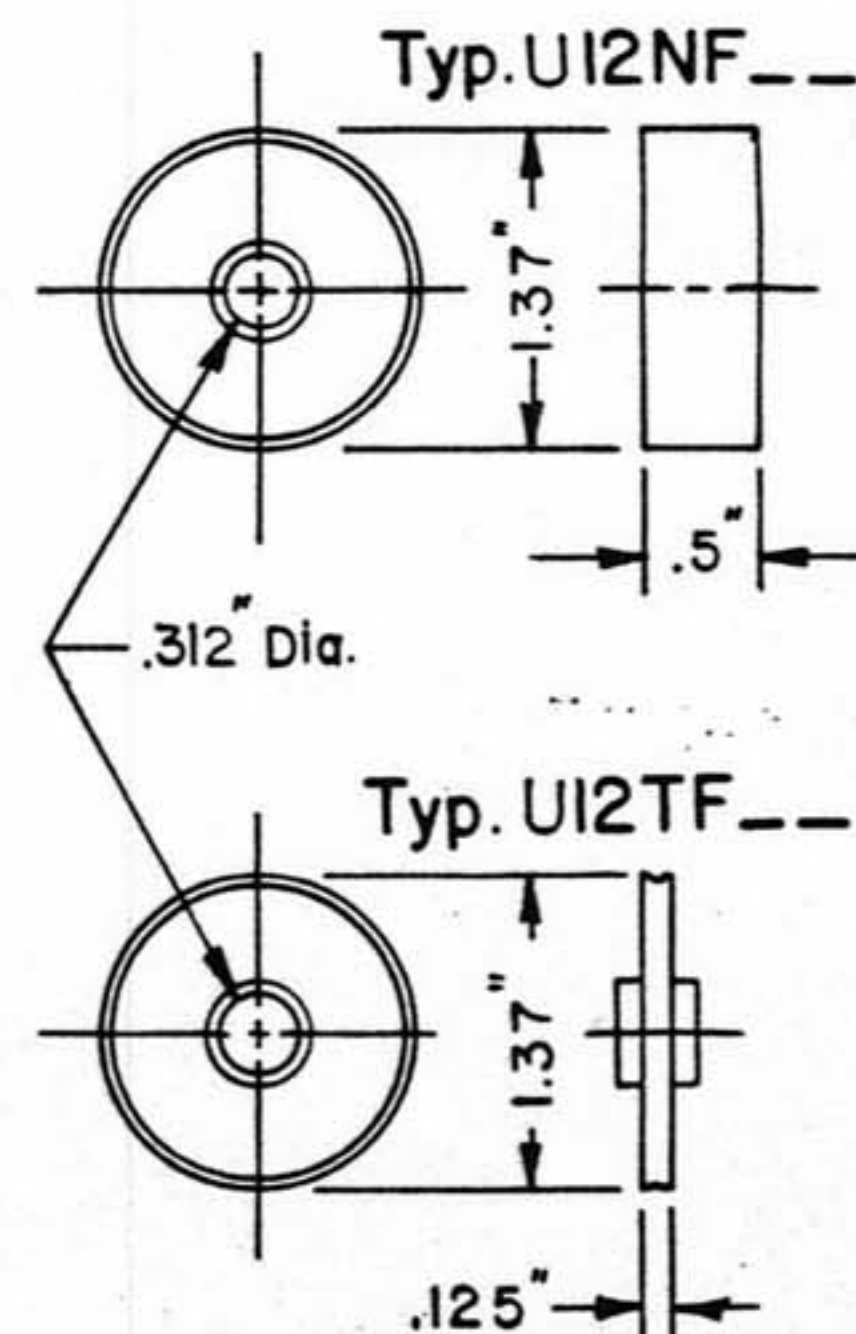
New Production is 5 slots

	Front	Rear	F	R	F	R
Add letter W, M, N or T to the Pt. No.						
ASSOC. - RC12	U12_F8R	U12-R8R	U12_F5S	U12-R5S	A12_F6S	A12-R6S
DELTA	U12_F8R	U12-R8R	U12_F5S	U12-R5S	U12_F6S	U12-R6S
PARMA	U12_F8R	U12-R8R	U12_F5S	U12-R5S	U12_F6S	U12-R6S
BoLINK	U12_F8R	U12-R8R	U12_F5S	U12-R5S	A12_F6S	A12-R6S
ADVANCE	U12_F8R	U12-R8R	U12_F5S	U12-R5S	A12_F6S	U12-R6S



NOTES:

- 1- Due to space limitations the wheel hubs for Advance, Delta & Parma rear wheels are not shown. However the hubs for these wheels are designed to fit the car shown.
- 2- A12WF__ available in 8R, 4S, 6S
 A12MF__ " " 8R, 4S, 6S
 A12NF__ " " 4S
 A12TF__ " " 6S

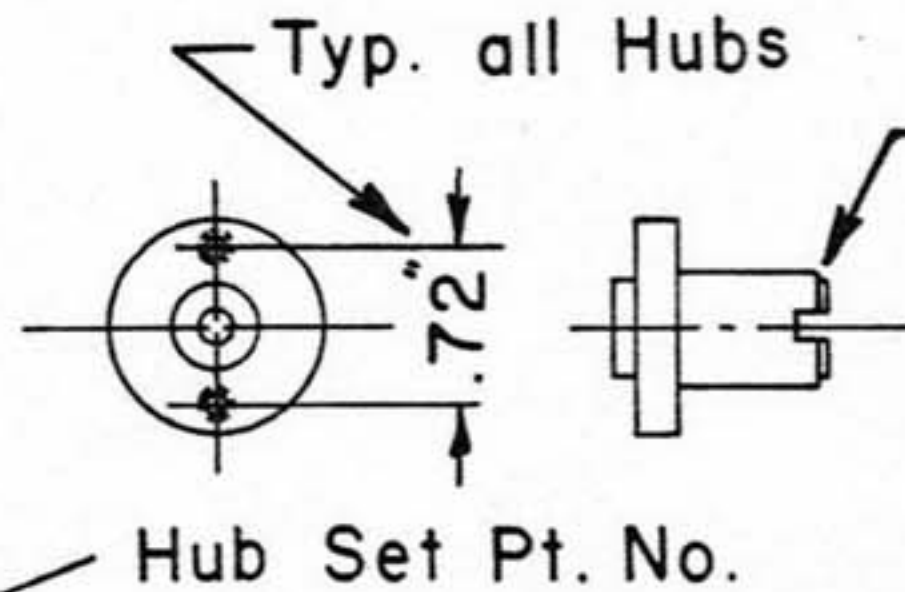


1/10th Scale Univ. *Mini-Mags*®

* Universal MINI-MAGS is our NEW 1/10 th. Scale wheel system using common (Universal) wheels for all the cars listed below. This is done by using our Hubs shown below.

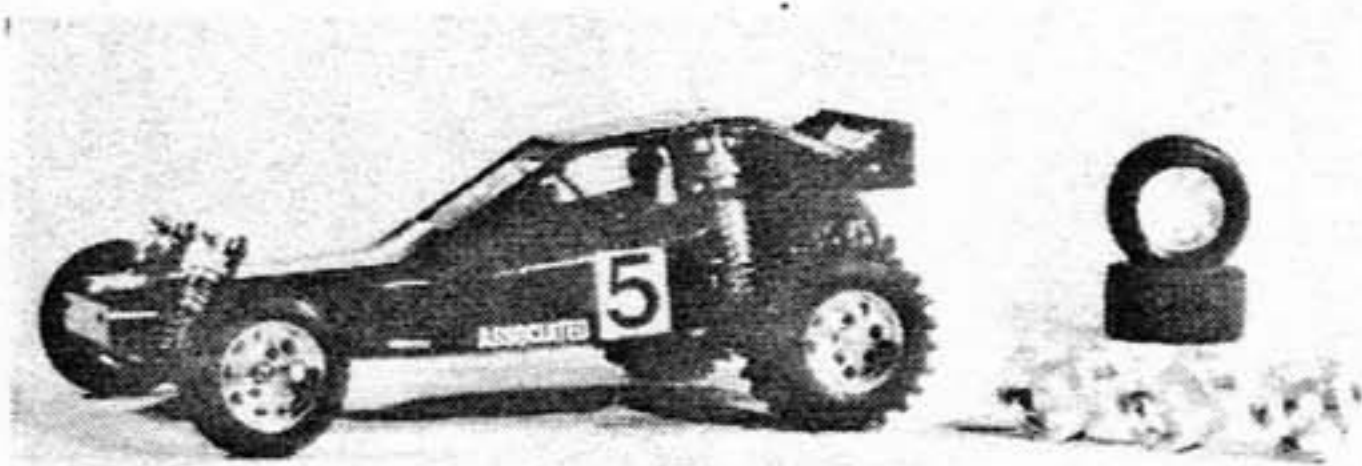
Universals are made for Stock Tires, Hot Shot Tires & our Grand Prix Tires.

1/10 th. Scale Hubs
Hub Sets include 4 Hubs,
Mtg. Screws & Wrench

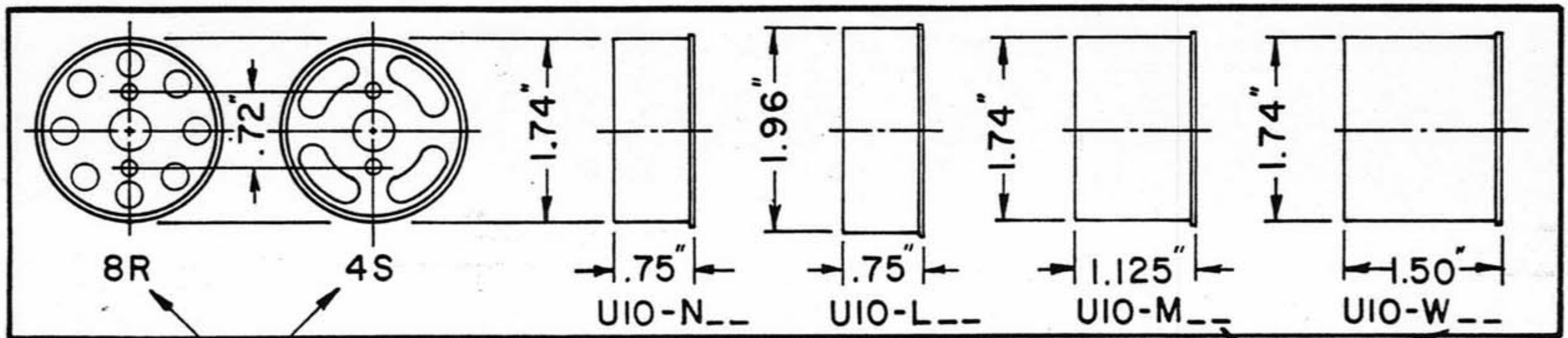
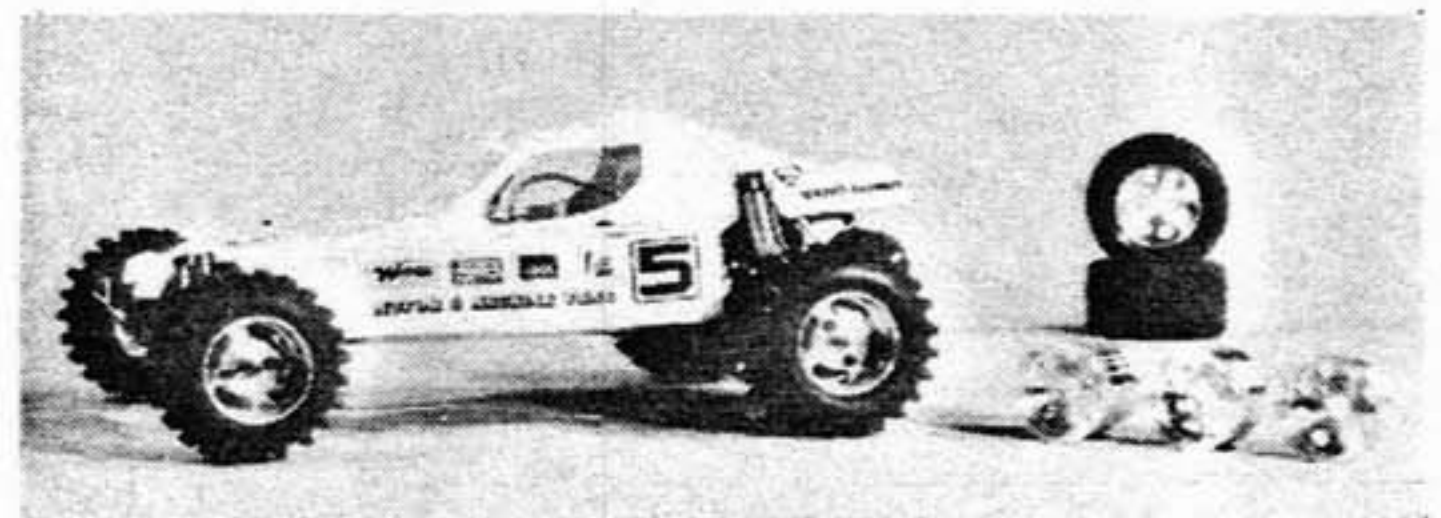


Tamiya Frog Hub shown, other Hubs have been designed to fit the axles of the appropriate cars. The wheel mounting holes are Typ. on all Hubs

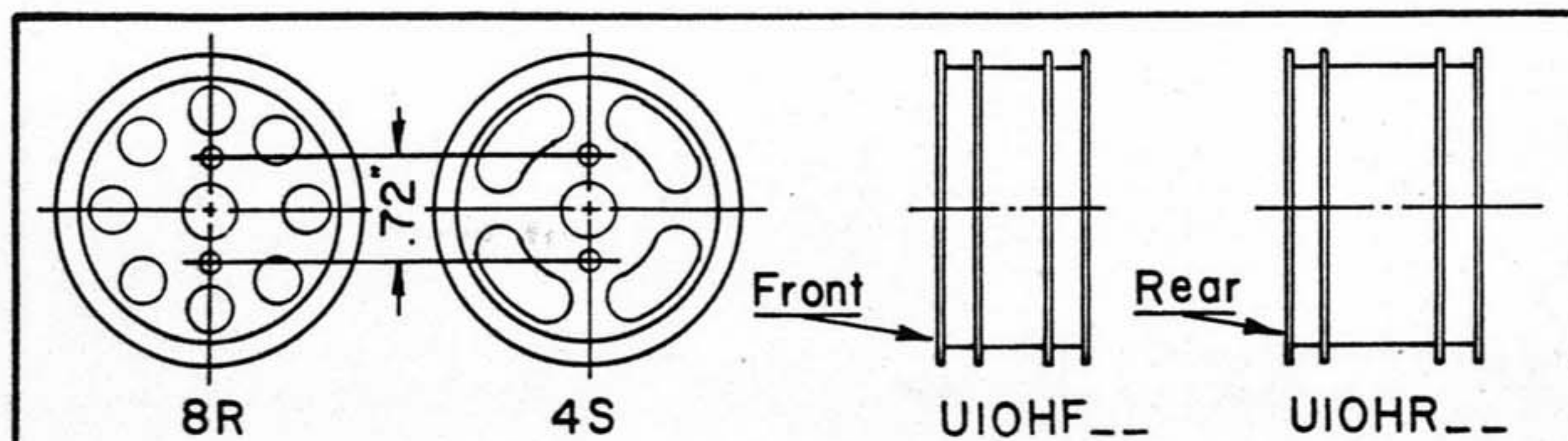
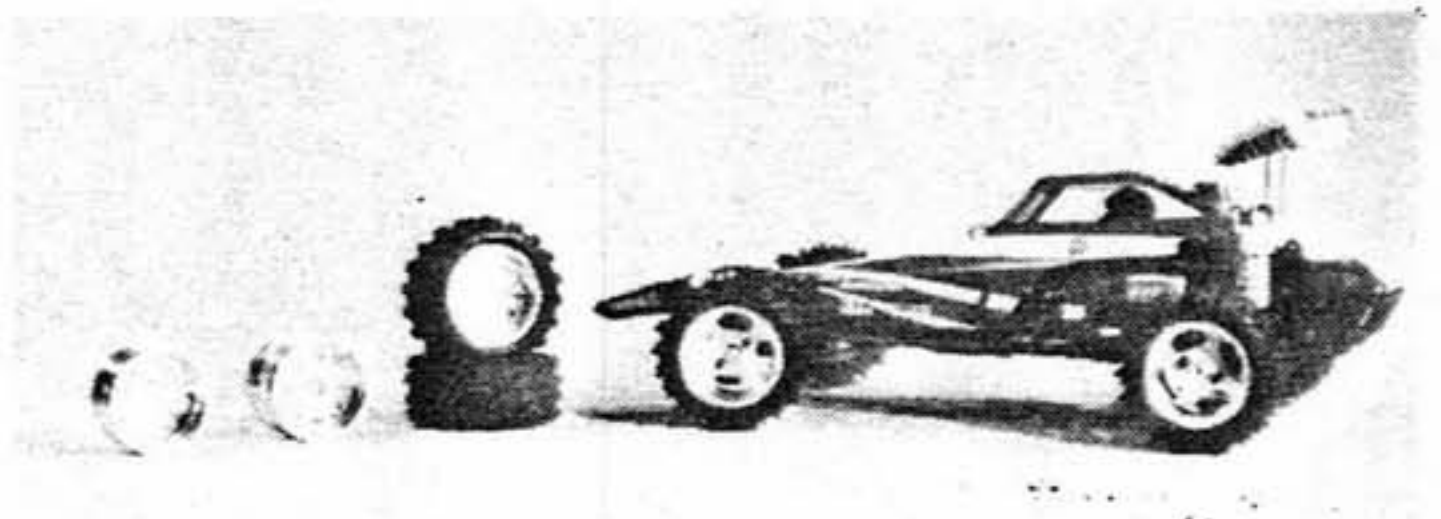
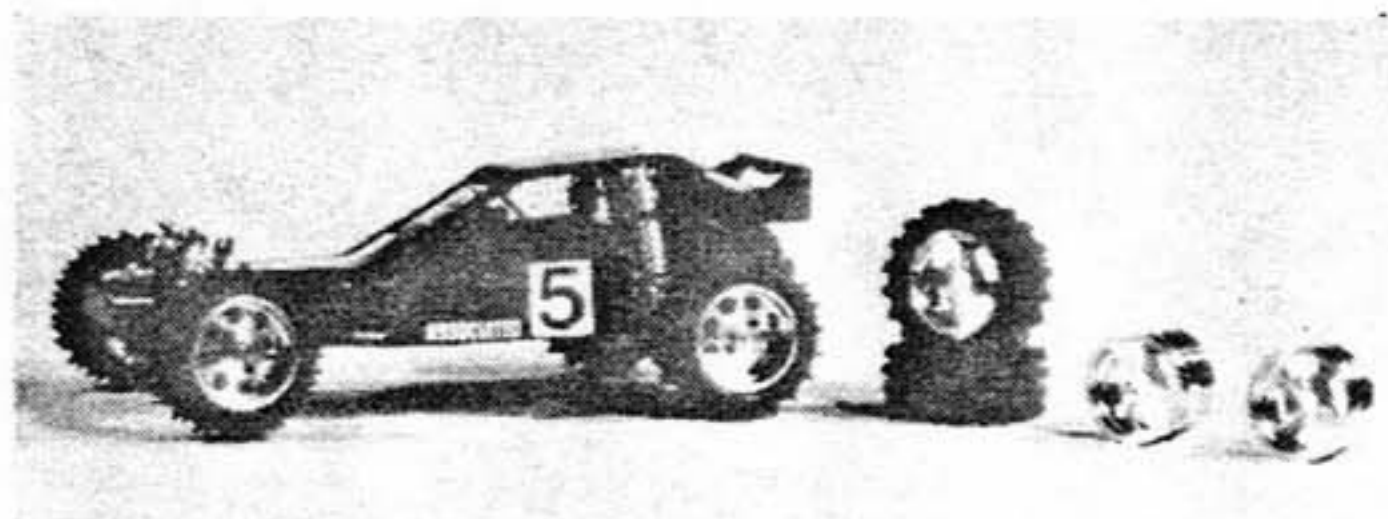
Assoc.	RC-10	AIOH	1,2,3,5	MRP	Pro 110	PIOH	1,2,3,5,10
BoLink	Rd. Tracker	BIOH	1,6	Tamiya	Frog Etc.	TIOH	1,2,4,10,11
Hirobo	Zerda	HIOH	1,8,4	"	Hot Shot	HIOH	12
Kyosho	Optima	KIOH	1,2,3,7	"	Fox	FIOH	1,13,10
Mugen	Bull Dog	MIOH	1,9	Yokomo	Dog Fighter	YIOS	1,14



See Notes
on Pages
10 & 11



Add your choice of 8R or 4S to the Pt.No.



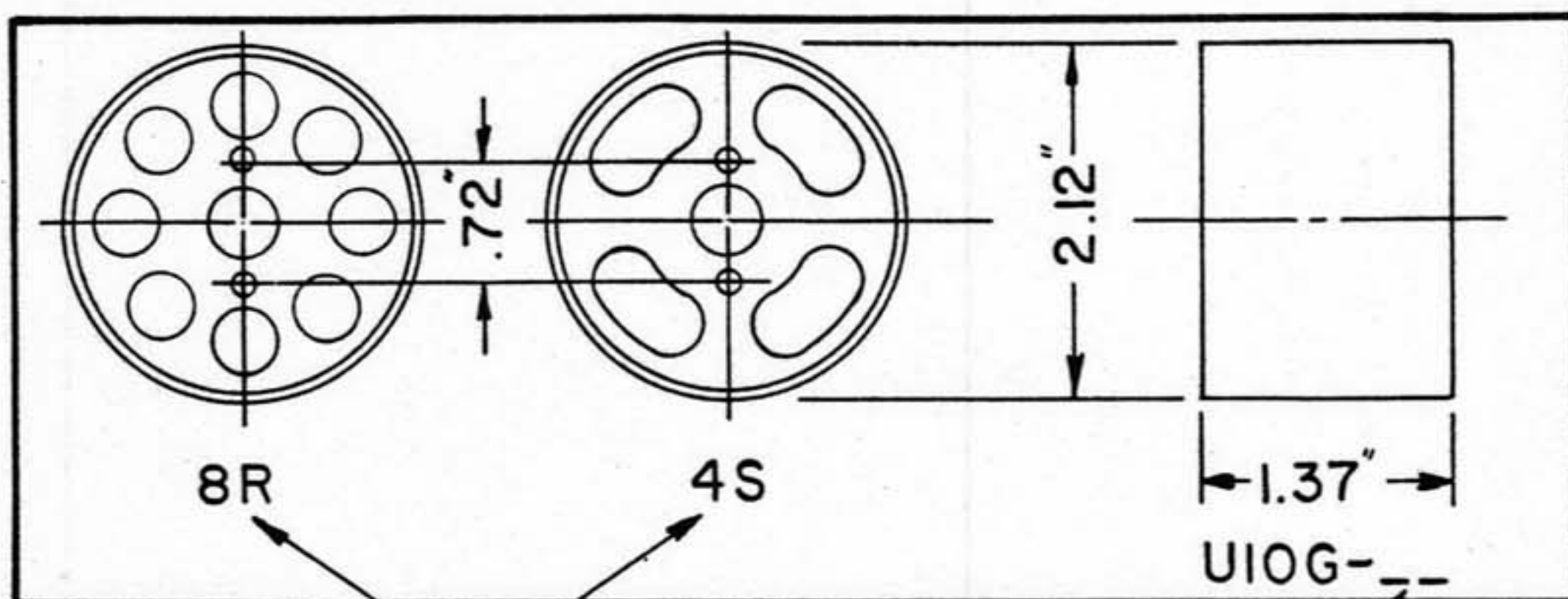
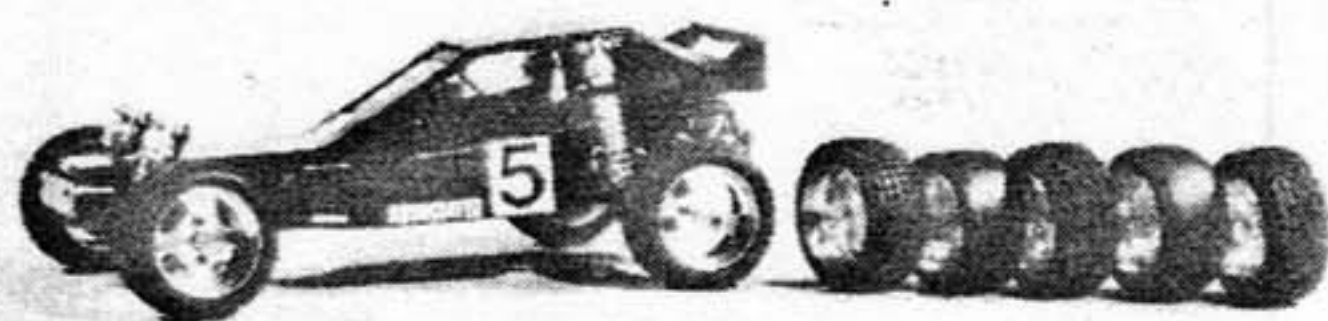
SEE PAGES
10 & 11 for
Application Notes
that apply to
the use of the
wheels shown
on this page.

— Universal MINI-MAGS for —
Stock Size Tires

— Universal MINI-MAGS for —
Hot Shot Type Tires

1/10th Scale Univ. *Mini-Mags*[®]

— Universal MINI - MAGS for —
Grand Prix (Front) Tires

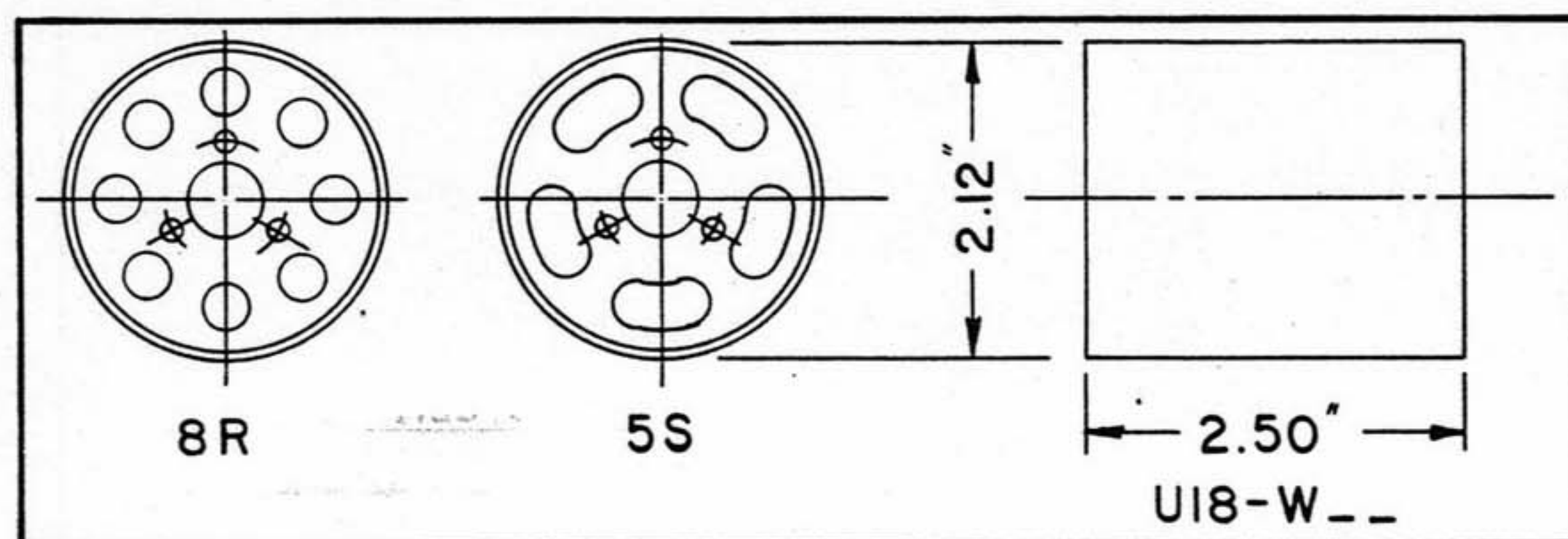


SEE PAGE # 10 & 11 for
Application Notes

&

SEE PAGE # 8 & 9 for
GRAND PRIX TIRES
that fit these wheels.

— Universal MINI - MAGS for —
Grand Prix (Rear) Tires



NOTE:

Use of this wheel
on 1/10th scale
cars requires a
special Hub set
shown below —

Assoc.	RC-10	AI08-RH	15,16	Tamiya Frog Etc.	TI08-RH	15,19
BoLink	Rd. Tracker	BI08-RH	15,17	Yokomo Dog Fighter	YI08FRH	20
"	"	BI08FRH	18			

Hub Set Pt. No.

See Note on Page 10 & 11

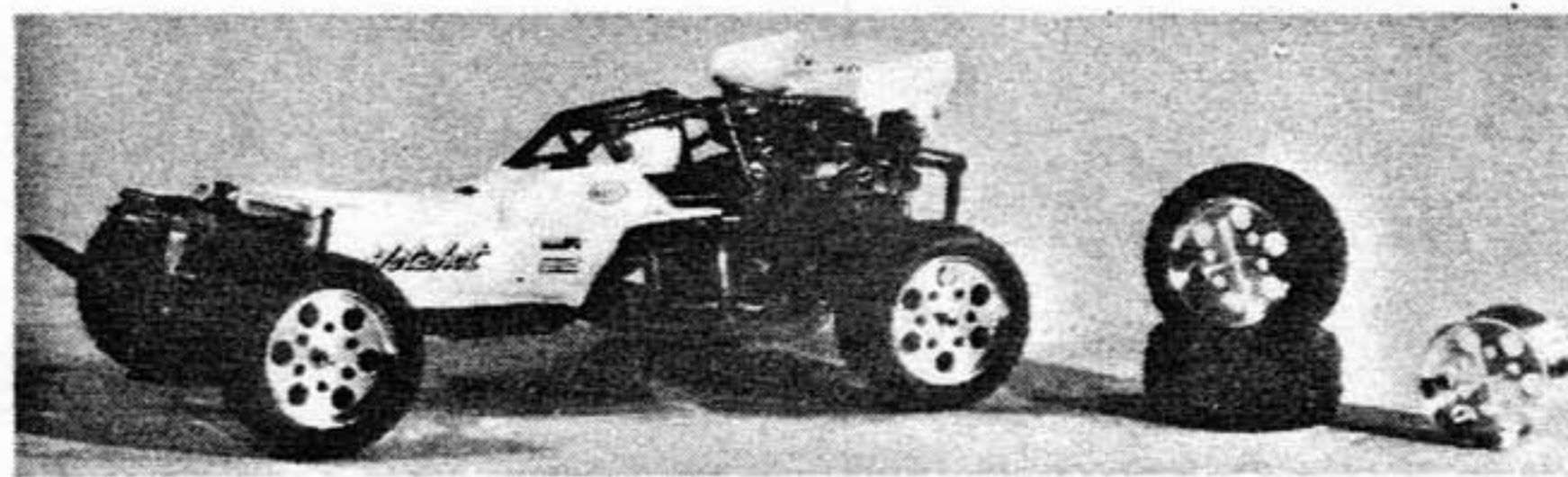
Hub Sets include 2 Hubs, Mtg. Screws & Wrench



1/10th Scale *original* Mini-Mags®

NOTE: Dealers and Retail Customers -

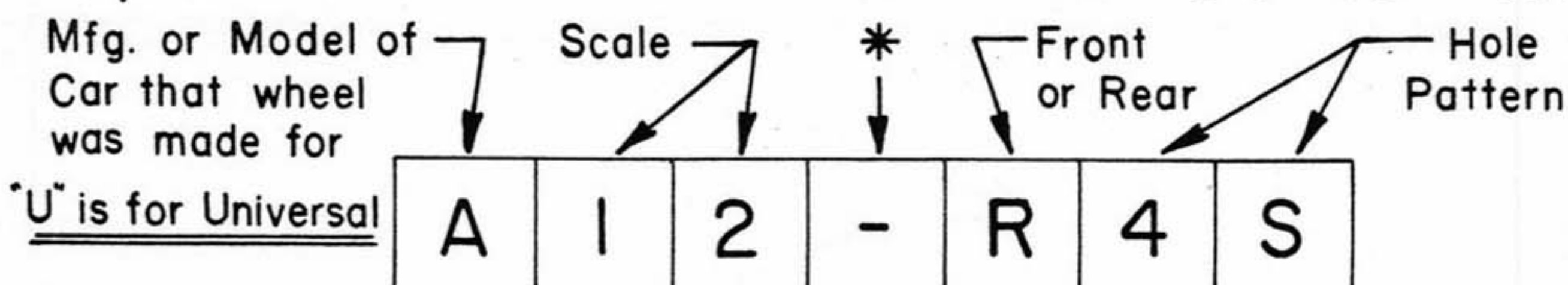
All the wheels on this page have been discontinued (and replaced with universals), but we have about 12 pair of T104F6R left over. We will sell at a close-out price of 50% off of retail.



For Hot Shot Type Tires	
Tamiya Hot Shot Front	T104F6R
" " " Rear	T104R6R

For GRAND PRIX Tires	
Tamiya Hot Shot Front	T106-6R
" " " Rear	"

Explanation of ADVANCE Pt. No's. for Wheels

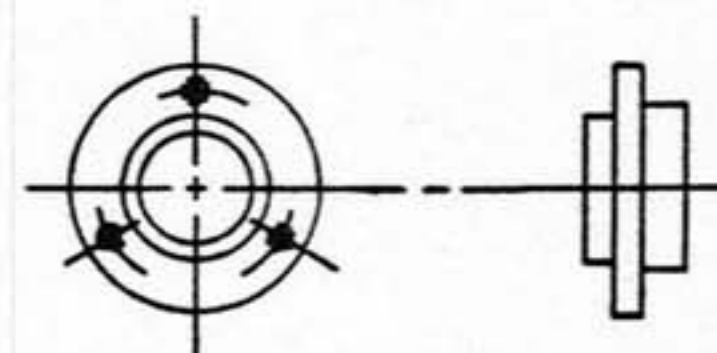
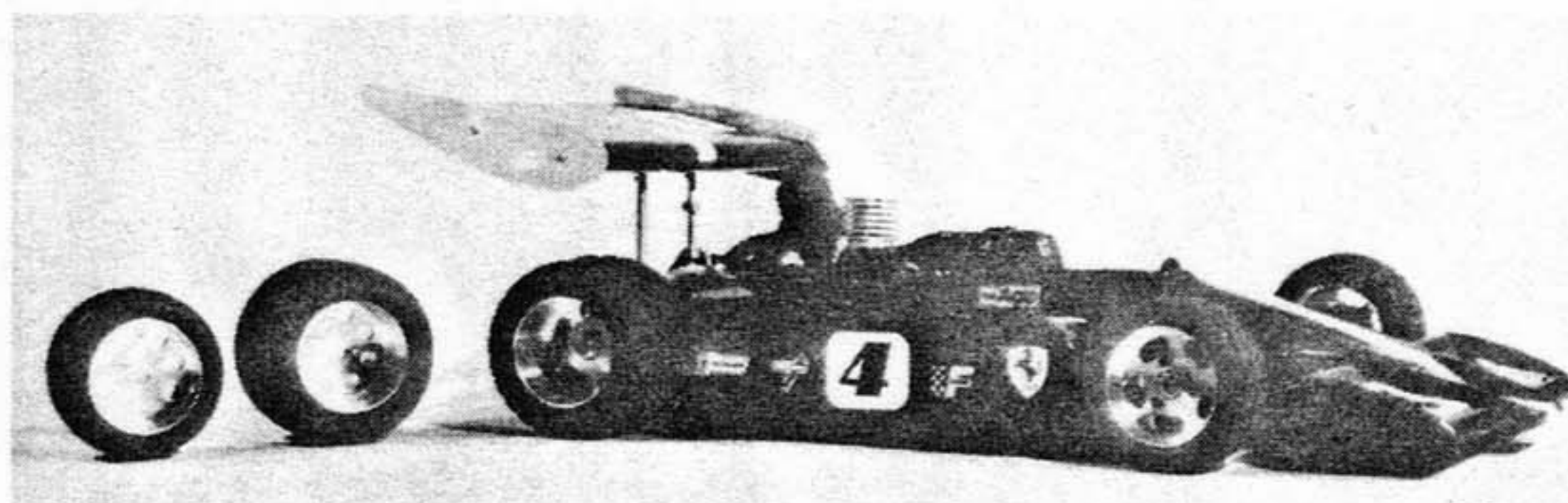


Example → Assoc. RC-12 (1/12th Scale) — Rear Wheel with 4 Slot Pattern

* — This space used for special codes (such as 4 for 4 Wh. Drive)

1/8th Scale Univ. *Mini-Mags*®

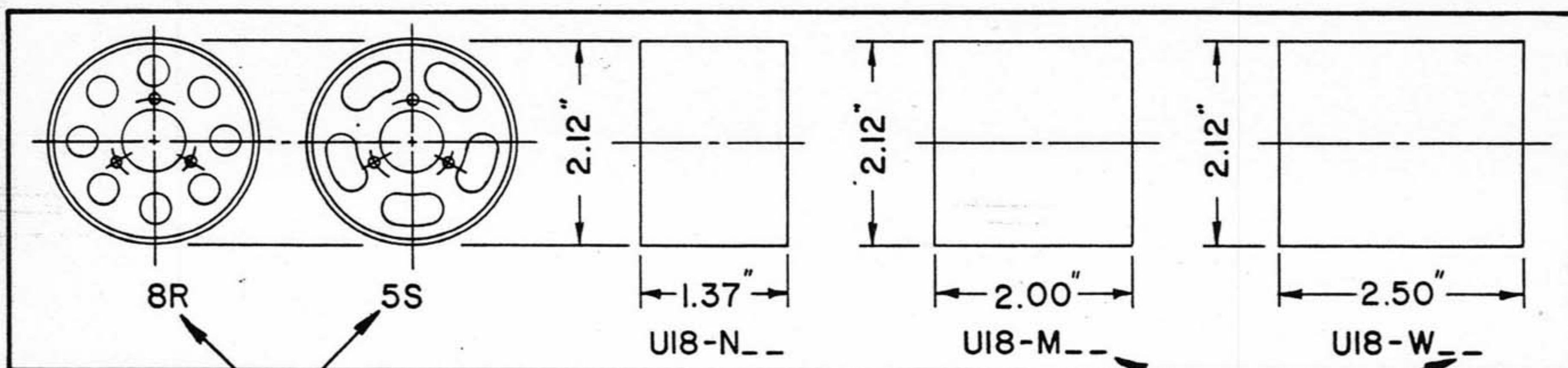
* Universal MINI-MAGS are also made for 1/8th. Scale cars by using the Hubs & Universal MINI-MAGS or the Special Modified Plastic Wheels shown below. These wheels are made to fit our Grand Prix Tires & Standard 1/8th. Scale Sponge Tires.



Assoc. Front Hub shown, other Hubs have been designed to fit the axles of the appropriate car.

See Notes on Pages 10, 11

Assoc.	RC-300, 500 2wh	AI8-FH	21, 23	S.G.	Columbia Mk 4	GI84Col	22, 29
"	RC-300 Rear	AI8-RH	21, 24	"	Leopard	GI84Lep	22, 30
"	" " " w diff.	AI8-RDH	21, 25	Serpent	Quattro Front 2 wh.	SI8-FH	21, 31
"	RC-500 Front 4wh	AI84FH	21, 26	"	" " 4wh.	SI84FH	21, 31
"	" " " "	AI84FHE	27	"	" Rear 2 & 4	SI84RH	21, 32
Cook	Cobra	CI84FRH	28	"	Cobra	SI84Cob	22, 30
Delta	Super Eagle, Front	DI8-FH	21, 12	Kyosho	Vanning	KI84Van	22, 30
"	" " Rear	DI8-RH	21, 12				
"	" " 4wh	DI84FH	21, 12				



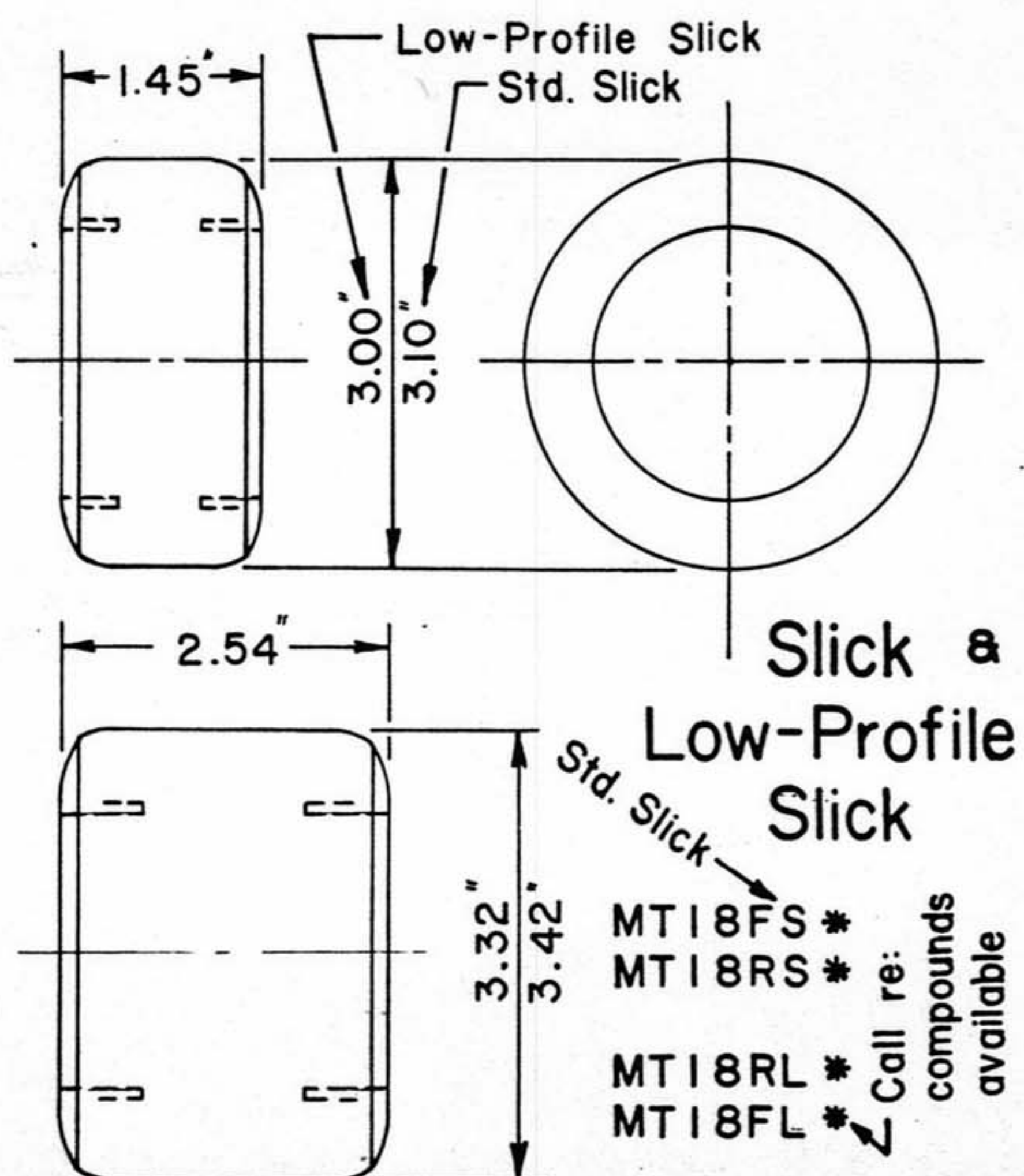
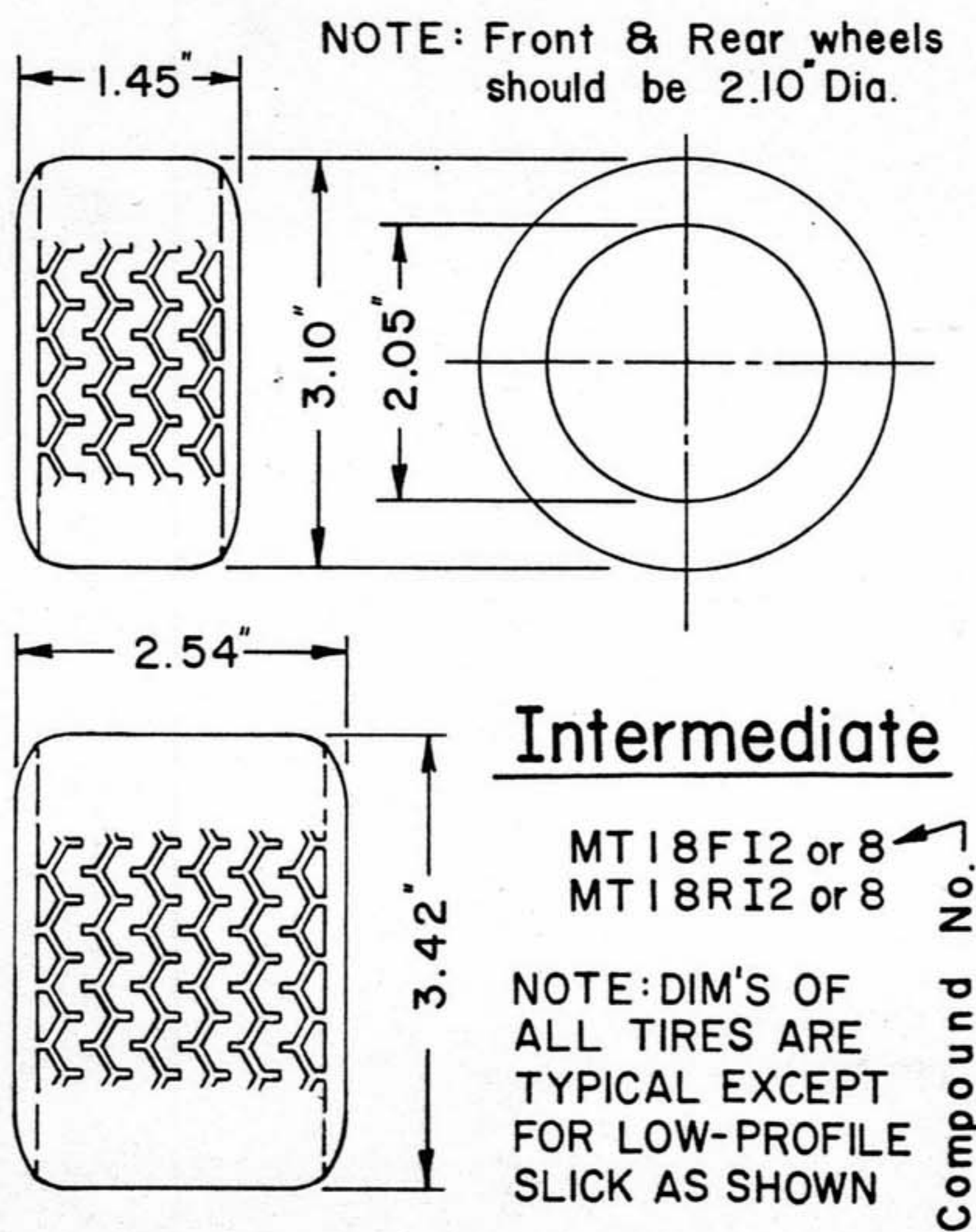
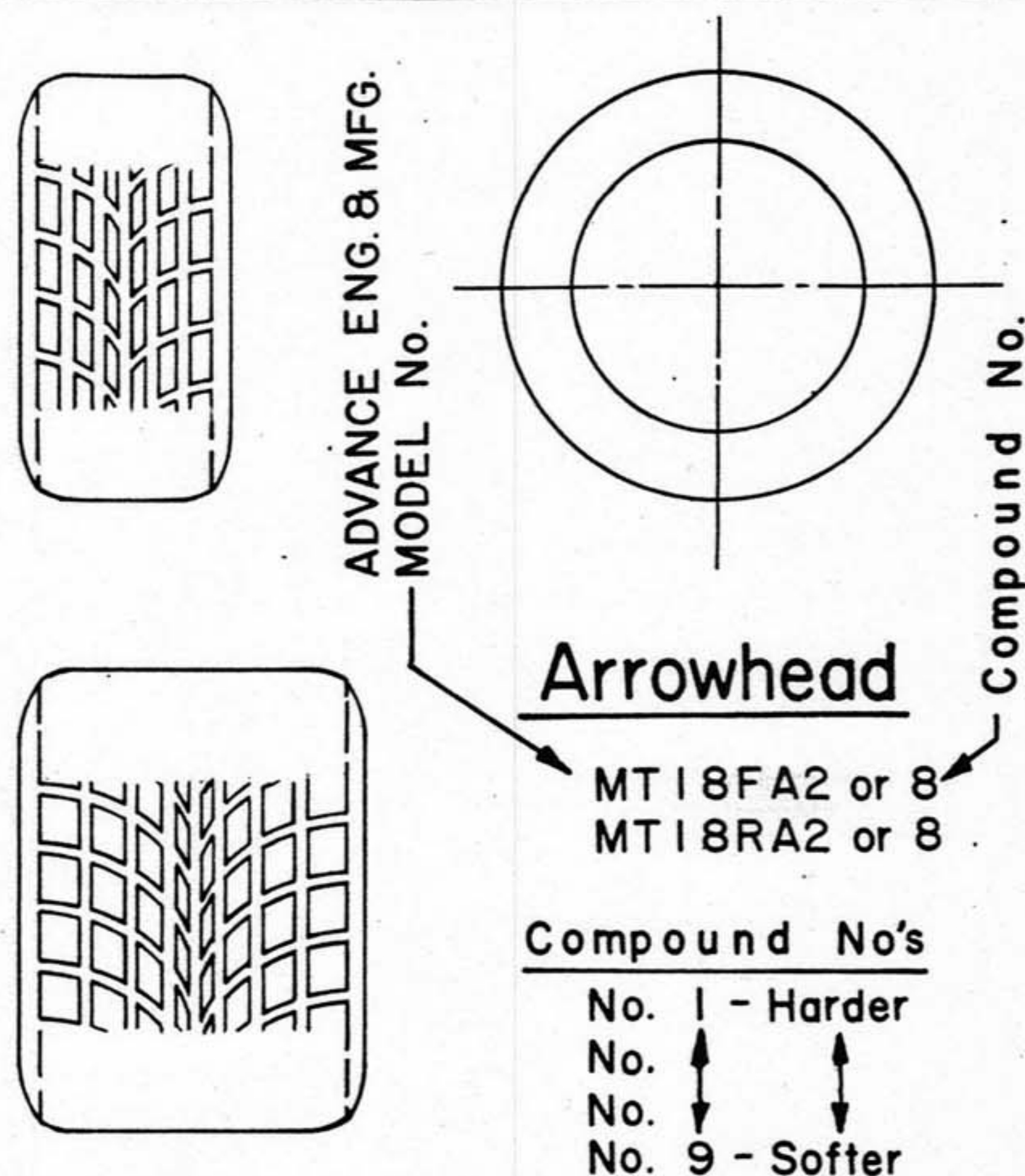
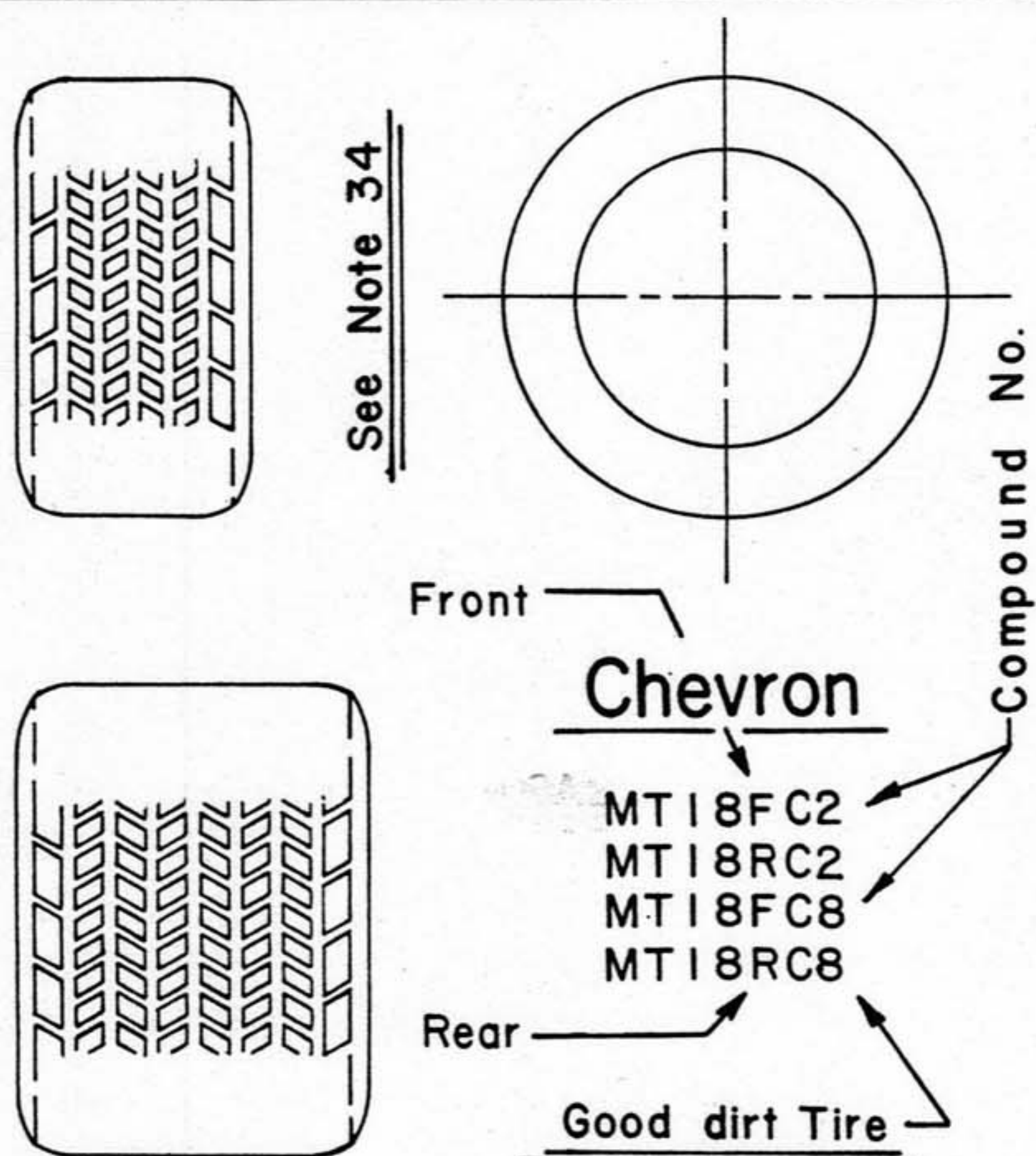
Add your choice of 8R or 5S to the Pt. Number

Assoc. RC500 (Plastic) Rear Wheels Modified for use with our Hubs.	UI8PN * 1.37 wide	UI8PM * 2.00 wide	UI8PW * 2.37 wide
---	----------------------	----------------------	----------------------

Plain (no holes or slots) Only
See Note # 33 on Page 11

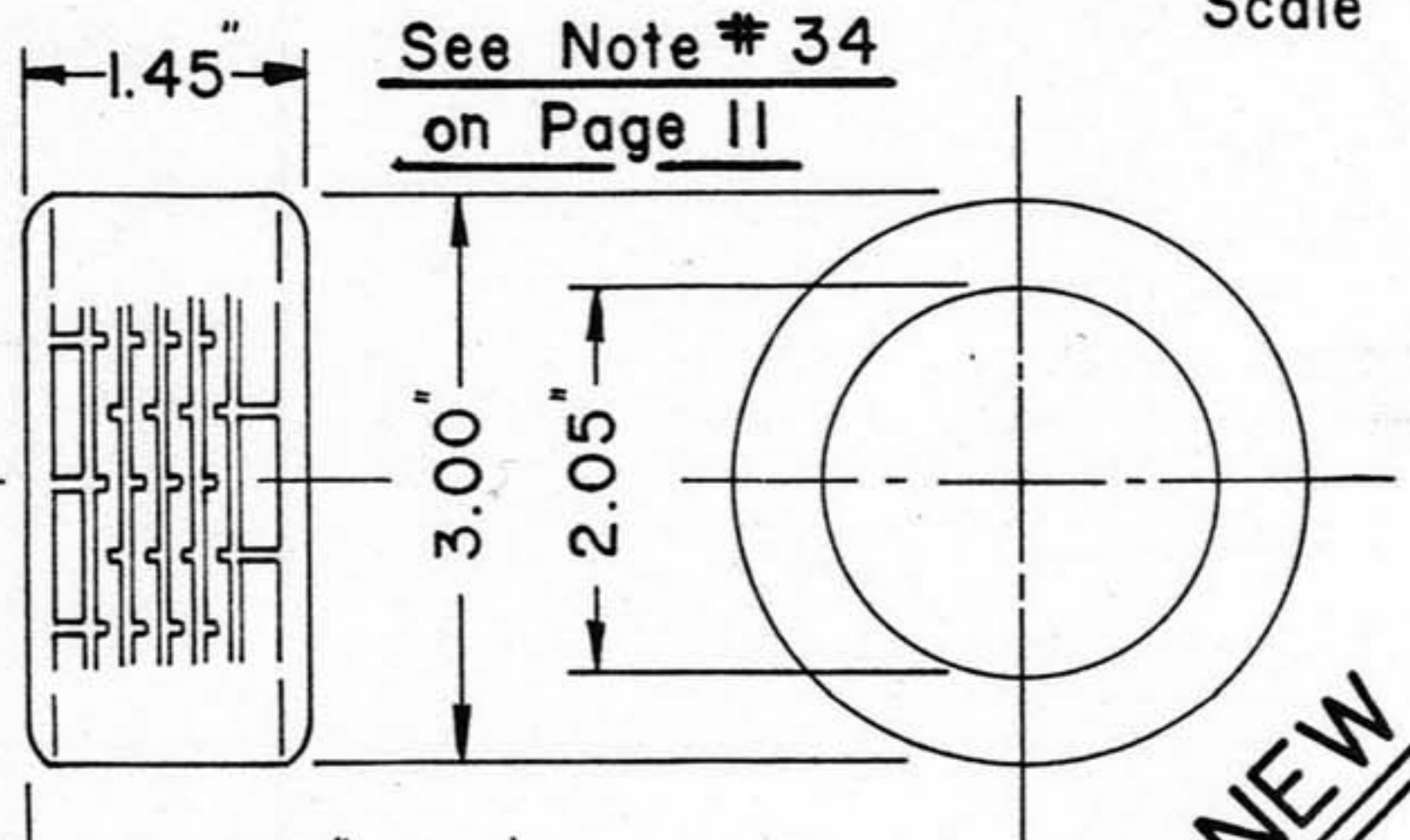
Note: New 3.0" wide wheel Pt. No. U18EW_____.

- MRC - GRAND PRIX TIRES from England
 1/8 Scale Molded Rubber Tires with
 molded in fabric body for Wet or Dry
 Paved and Dirt Tracks



MRC — GRAND PRIX TIRES

1/8 th. Scale



See Note # 34
on Page II

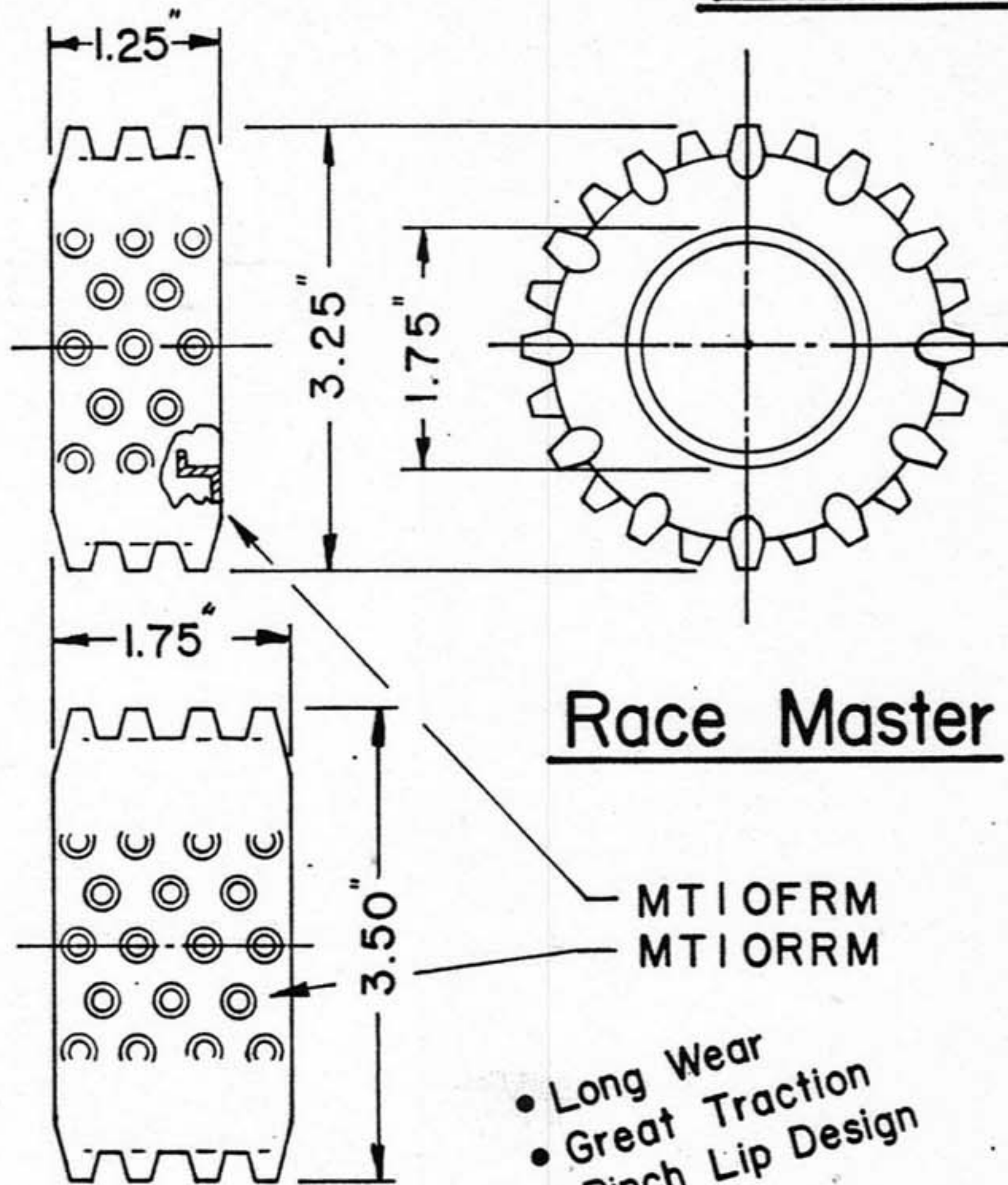
Patterned Low-Profile

MT18FP*
MT18RP*

Call re:
compounds
available

MRC — RACE MASTER

1/10 th. Scale



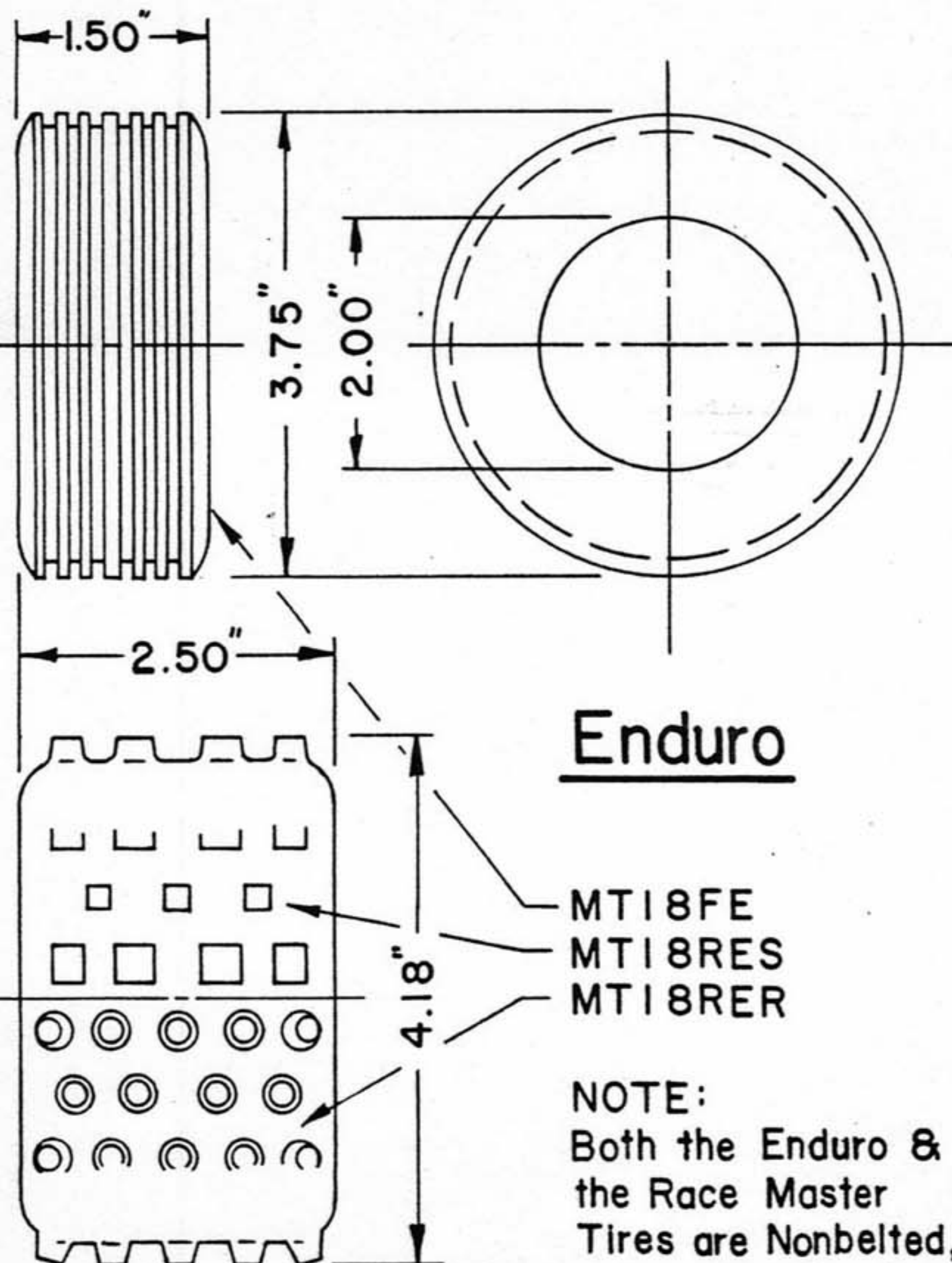
Race Master

MT10FRM
MT10RRM

- Long Wear
- Great Traction
- Pinch Lip Design

MRC — ENDURO TIRES

1/8 th. Scale



Enduro

MT18FE
MT18RES
MT18RER

NOTE:
Both the Enduro &
the Race Master
Tires are Nonbelted,
unlike the Grand
Prix Tires.

~~Watch for NEW 1/8 th. Scale
Low Profile, Off Road Tire~~

Note: New 2.0" wide low profile slick Pt. No. MT18ML.

APPLICATION NOTES

1. All 1/10th scale Universal Mini-Mags® will fit this car. This Hub Set includes 4 hubs, screws, and wrench. Some exceptions may apply; check all notes listed.
2. The 1½" wide (U10-W) wheel hits the front suspension/steering arm.
3. Options are to space the wheel and/or hub out a little or to mount the wheel backwards.
4. Options are to add the 7/32" thick spacers (Y10-S) to the hubs or to mount the wheel backwards.
5. Width of this car will be approximately 9⅜" both front and rear without spacers.
6. Width of this car will be approximately 8½" both front and rear without spacers.
7. Width of this car will be approximately 9½" both front and rear without spacers.
8. The 1½" wide (U10-W) wheel hits the front and rear suspension arms. Width of this car will be approximately 9" both front and rear without spacers.
9. The 1½" wide (U10-W) wheel hits the plastic ball joint covers. Options are to trim the plastic covers or add the 7/32" thick spacers (Y10-S) to the hub or to mount the wheel backwards. Width of this car will be approximately 9¼" front and rear without spacers.
10. This Hub Set includes a new tool that aligns the front wheel and hub during assembly.
11. Width of this car will be approximately 8¾" front and 9½" rear without spacers.
12. Specific information not available on this car at this time.
13. The 1½" wide (U10-W) will not fit on this car. The 1⅝" wide (U10-M) wheel hits the suspension arms. Options are to add the 7/32" thick spacer to the hubs. Width of this car will be approximately 9¼" front and 9" rear.
14. No hubs are needed to mount these wheels on this car, however, a set of spacers (Y10-S) are available which add 7/16" to the overall width of the car. Width of this car will be approximately 8½" both front and rear without spacers.
15. This Hub Set allows the use of 2½" wide (U18-W) 1/8th scale Universal Mini-Mags® on the rear axle of this car and includes 2 hubs, screws and wrench.
16. Width of this car will be approximately 10¾".
17. Width of this car will be approximately 9½".
18. This Hub Set allows the use of 1/10th scale Universal Wheels on the front axle and the 2½" wide (U18-W) 1/8th scale Universal Wheel on the rear axle of this car and includes 4 hubs, screws and wrench. Width of the car will be approximately 8½" front and 9½" rear.
19. Width of this car will be approximately 11".
20. This Hub Set allows the use of 2" wide (U18-M) or 2½" wide (U18-W) wheels on the front and/or rear axles of this car and includes 4 hubs, screws, and wrenches. Width of this car will be approximately 10½" with U18-W wheels.
21. This 1/8th scale Universal Mini-Mag® Hub Set includes 2 hubs, screws and wrench. Some exceptions may apply; check notes listed. Width of car will be approximately stock.
22. This 1/8th scale Universal Mini-Mag® Hub Set includes 4 hubs, screws and wrench. Some exceptions may apply; check notes listed. Width of car will be approximately stock.
23. Use 1⅜" wide (U18-N) wheels for the front axle. These hubs require 2 pair of ¼" x ½" O.D. ball bearings with flange.
24. Use 2½" wide (U18-W) wheels for the rear axle of cars without the ball differential.
25. Call manufacturer regarding the availability of this Hub Set.
26. Use 1⅜" wide (U18-N) wheels for the front axle. These hubs allow use of stock Assoc. Ball & One-Way Bearings. Note: Hubs are designed to place the large diameter drive flange behind the wheel.

27. Use 1 $\frac{3}{8}$ " wide (U18-N) wheels for the front axle. This Hub Set includes rework (or exchange) of your stock hubs, 2 spacers, screws and wrench. Note: Hubs will be reworked so that the large diameter drive flange is **behind** the wheel.
28. Use 1 $\frac{3}{8}$ " wide (U18-N) and 2 $\frac{1}{2}$ " wide (U18-W) wheels on this car, utilizing the stock 3 screw hubs. Note: The center hole of the U18-W wheel must be increased to $\frac{5}{8}$ " diameter and will be done by the manufacturer at no charge if requested at time order is placed.
29. Use 1 $\frac{3}{8}$ " wide (U18-N) and 2 $\frac{1}{2}$ " wide (U18-W) wheels on this car.
30. Use 2 pair of the 2.0" wide (U18-M) wheels on this car.
31. Use 1 $\frac{3}{8}$ " wide (U18-N) wheels on this car.
32. Use 2 $\frac{1}{2}$ " wide (U18-W) wheels on this car.
33. These are stock Associated RC 500 rear wheels that we have machined for use on the **front and rear** of your car by using Universal Mini-Mag[®] Hubs. This will provide an inexpensive way to use a number of different compounds and/or styles of our Grand Prix Tires, and also make these wheels and tires interchangeable between different cars.
34. Grand Prix Tires **require** front and rear wheels that are approximately 2.1" O.D. for proper fit.

As of May 10, 1987, it was necessary for us to increase the prices of the MRC Tires due to a large price increase from the manufacturer.

Grand Prix fronts will be	\$24.95
Grand Prix rears will be	\$29.95
Race Master fronts will be	\$14.95
Race Master rears will be	\$17.95
Two-bolt hub sets (4 hubs)	\$14.95

ADVANCE ENG. & MFG. CO. - PRICE LIST Eff. 7-1-86

Page	Scale	Part Number	Description	Notes	Price
3	1/12 th.	A 1 2 T F _ _	1/8" Wide Front	All Styles	19.95 / pr.
		A 1 2 N F _ _	1/2" " "	" "	21.95 "
		A 1 2 M F _ _	3/4" " "	" "	23.95 "
		A 1 2 W F _ _	1" " "	" "	24.95 "
		A 1 2 - R _ _	1 1/2" Wide Rear	" "	26.95 "
		D 1 2 - R _ _	" " "	" "	" " "
		P 1 2 - R _ _	" " "	" "	" " "
		U 1 2 - R _ _	" " "	" "	" " "
6	1/10 th.	A 1 0 s F _ _	RC 10 Front	All Styles	29.95 / pr.
		A 1 0 R _ _	" " Rear	" "	31.95 "
		T 1 0 4 F 6 R	Hot Shot - Front	Stock Tire	31.95 "
		T 1 0 4 R 6 R	" " Rear	" "	34.95 "
		T 1 0 6 6 R	" " F&R	Grand Prix Tire	31.95 "
4	1/10 th.	* 1 0 H	Hubs * All Except Below	Set of 4 Hubs	14.95 / Set
		B 1 0 H	"	" " " "	19.95 "
		T 1 0 A R A	Adapter - Tamiya to Assoc. Rear Wheel		4.95 / pr.
		U 1 0 - L _ _	3/4" W X 1 31/32" Dia.	Either Style	29.95 / pr.
		U 1 0 - N _ _	3/4" W X 1 3/4" Dia.	" "	27.95 "
		U 1 0 - M _ _	1 1/8" W X 1 3/4" Dia.	" "	28.95 "
		U 1 0 - W _ _	1 1/2" W X 1 3/4" Dia.	" "	29.95 "
		U 1 0 H F _ _	for Hot Shot Front Tire	" "	31.95 "
		U 1 0 H R _ _	" " " Rear "	" "	34.95 "
5	1/10 th.	U 1 0 G - _ _	for Grand Prix Front	Either Style	31.95 / pr.
		U 1 8 - W _ _	" " " Rear	" "	37.95 "
		A 1 0 8 - R H	Hubs for 1/8 Rear Wh.	RC-10	9.95 / pr.
		B 1 0 8 - R H	" " " " "	Rd. Tracker	14.95 "
		B 1 0 8 F R H	" " " " "	Set of 4 Hubs	19.95 / Set
		T 1 0 8 - R H	" " " " "	Frog etc.	9.95 / pr.
		Y 1 0 8 F R H	" " " " "	Front or Rear	9.95 "
8	Tires	M T 1 8 F _ _	Grand Prix Front Tire	All Styles	24.95 / pr.
		M T 1 8 R _ _	" " Rear "	" "	29.95 "
9	Tires	M T 1 0 F R M	Race Master Front	1/10 th Off Rd.	14.95 / pr.
		M T 1 0 R R M	" " Rear	" " " "	17.95 "
		M T 1 8 F E	Endro Front	1/8 th Off Rd.	19.95 "
		M T 1 8 R E S	" Rear, Sq. Knob	" " " "	29.95 "
		M T 1 8 R E R	" " Rd. "	" " " "	" " "
*	Tires	S T 1 0 F	1/2" W X 2" Dia. Sponge	1/12 th Drag R.	4.95 / pr.
		S T 1 0 R	1 1/2" W X 3" " "	" " "	6.95 "

* Misc.	
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Advance Products NOT Listed in the brochure:

DRAGIN KITS

1/12 Scale Pro Stock Dragin

Mini-Mags, full ball bearings, 3" O.D. rear tires, 1/2" wide front tires, super flex chassis, Ford Thunderbird body with hood scoop, and machined aluminum parts. \$129.95

1/12 Scale Funny Car Dragin

Same as above, except with Dodge Funny Car body, or with Ford Tempo Funny Car body. \$129.95

1/12 Scale Funny Car Dragin (Jack Shaft Belt Drive)

Same as above except '87 Olds Firenza body and Jack Shaft Belt Drive rear end. \$189.95

1/12 Scale AA Fuel Rail Dragin

Mini-Mags, full ball bearings, 3" tires, 1/8" O-Ring front tires, super flex chassis, jack shaft belt drive rear end, and machined aluminum parts. \$189.95

1/10 Scale Pro Stock Dragin

Mini-Mags, Grand Prix semi-pneumatic rear slicks, ribbed front tires, full ball bearings, super flex chassis, '87 Ford Thunderbird body with head scoop, and machined aluminum parts. \$179.95

1/10 Scale Funny Car Dragin

Mini-Mags, Grand Prix semi-pneumatic rear slicks, Scale Front Tires, full ball bearings, aluminum rail chassis, jack shaft belt drive rear end, machined aluminum parts and **Scale** '87 Olds Firenza Funny Car body. \$229.95

1/10 Scale AA Fuel Rail Dragin

Mini-Mags, Grand Prix semi-pneumatic rear slicks, 3/16" O-Ring front tires, full ball bearings, aluminum rail chassis, jack shaft belt drive rear end, and machined aluminum parts. \$229.95

Wiring Package; Includes resistor, mounting hardware, and wiring harness. \$24.95

Drag Motor: Check Point Gold Series Motor, 45,000 RPM, 13 turn. \$65.00

NYLON MINI-MAGS

Advance's most popular aluminum Universal Wheels are now available in nylon. These one-piece, molded, nylon wheels come in the 5-slot pattern and fit on the **same** hubs that the aluminum Universals use, making the nylon and aluminum Mini-Mags totally interchangeable. The new nylon Mini-Mags have the same dimensions as the aluminum Mini-Mags; U10L, U10N, U10M, U10W, U10G and U18W.

Nylon wheel for Grand Prix front tires:
Nylon wheel for stock front R/C10 tires:
Nylon wheel for stock narrow tires:
Nylon wheel for stock medium tires:
Nylon wheel for stock wide tires:
Nylon wheel for Grand Prix rear tires:

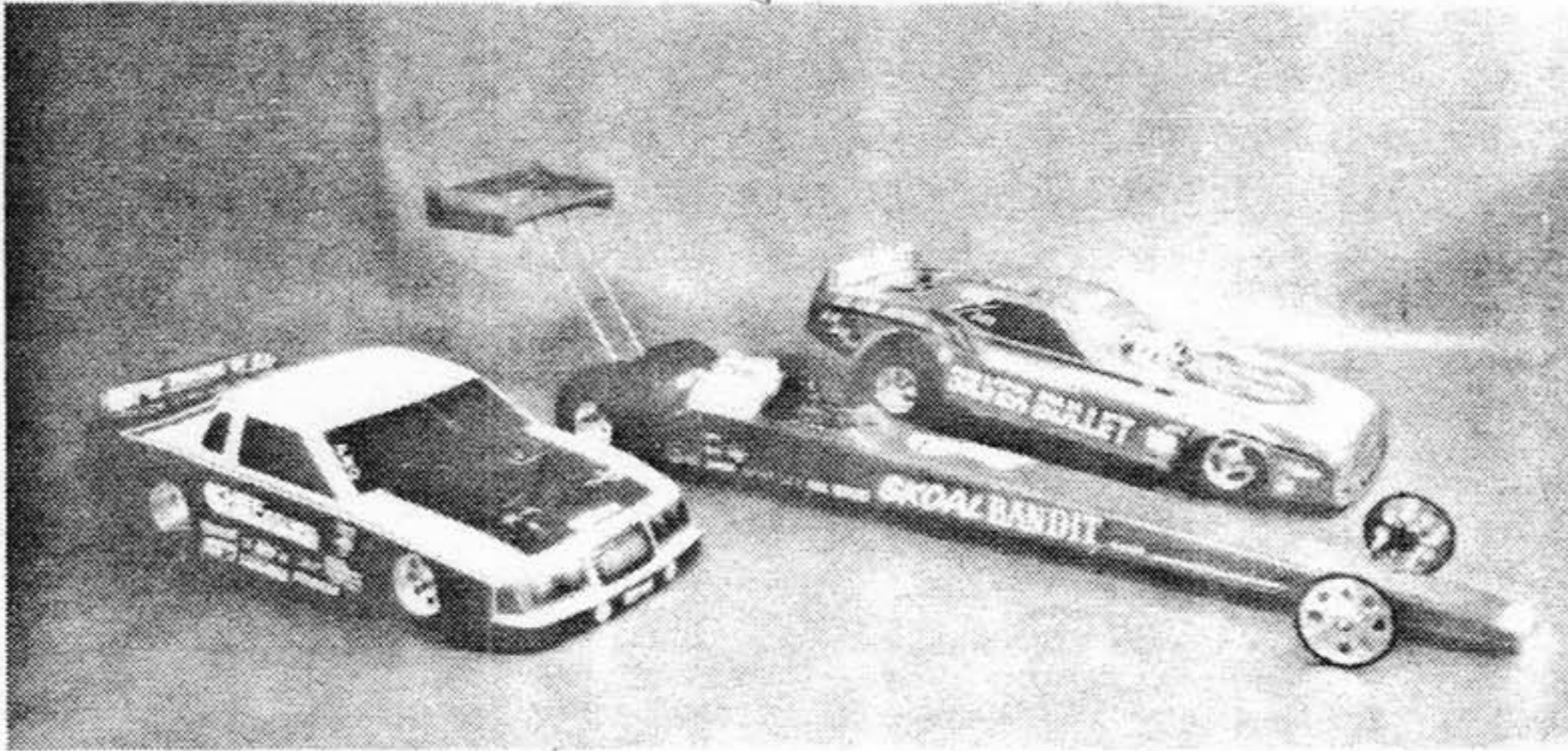
Part No.

U10PG
U10PL
U10PN
U10PM
U10PW
U18PW

All nylon wheels are \$6.95 per pair.

RACING FLAGS

Set of six racing flags. Each flag measures approximately 18" X 21". One each of checkered, red, white, yellow, green and black. Sticks are included. \$39.95 NET



ADVANCE ENG. & MFG. CO.

■ 180 S. Hwy. 67 ■
Unit G ■ P.O. Box 766
Woodland Park, CO 80866
(303) 687-2626



MINI-MAGS (aluminum)

1/12 scale - Front wheels are available in four widths and use 5/16" dia. bearings. Rear wheels have Universal 2-bolt mounting pattern.

1/10 scale - Available in eleven sizes and have 2 or 3 bolt Universal Mounting Pattern Hubs that are available for many 1/10 scale cars. All wheels come in 5-slot or 8-hole styles.

1/8 scale - Available in four sizes and have Universal 3-bolt Mounting Pattern Hubs that are available for many 1/8 scale cars. All wheels come in 5-slot or 8-hole style.

MINI-MAGS (nylon)

1/10 & 1/8 scale aluminum Mini-Mags are now available in nylon with 2-bolt or 3-bolt hole pattern and the 5-slot design.

MINI-MAG HUBS - Advance makes hubs (adapters) for about 20 different cars. Once you put a set of hubs on your car, any of our Mini-Mags will fit on those hubs.

Grand Prix Tires - Available in four sizes of slicks, or two sizes of street-type tires that are available in four different tread patterns. Race Master tires are available in two sizes.

CAR KITS

1/12 Scale Dragins

Pro Stock - direct drive, **\$129.95**

Funny Car - direct drive, **\$129.95**

Funny Car - belt drive, **\$189.95**

AA Fuel Rail - belt drive, **\$189.95**

1/10 Scale Dragins

Pro-Stock - direct drive, **\$179.95**

Funny Car - belt drive, **\$229.95**

AA Fuel Rail - belt drive, **\$229.95**

1/10 Scale Street Rod - direct drive, **\$179.95**

Can choose from 3 body styles,
3 wheel styles & 3 tire styles

1/10 Sprint Car (RC10 Conversion)

Grand Prix Tires & nylon wheels, **\$189.95**

Grand Prix Tires & aluminum wheels, **\$249.95**

1/8 Scale Dragin

AA Fuel Rail - gas, available soon

Available Soon:

1/10 Super Sport (RC10 Conversion)

1/10 Super Sport (Oval) belt drive

1/10 Super Sport (Road) belt drive

Racing Flags - set of six, **\$39.95 net**

T-Shirts - S, M, L, XL, **\$6.95 net**

DEALERS

Let us do the work for you! You tell us what kind of cars you want to set up with Mini-Mags, and what kind of tires you want to use, and we'll figure out the part numbers!

Call us to place an order and we'll give you credit for the phone call - so the call will be free. We'll give you \$1 credit for each \$100 (net) of order.

Name _____		Signature _____		For office use
Address _____		Phone No. _____		
City _____		State _____ Zip _____		
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(303) 687-2626		Grand Total		

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