RC HELICOPTERS

1987-8 WORLD CHAMPION

1985-1986-1987 NATIONAL CHAMPION

1988 CATALOG

A MESSAGE FROM GMP'S PRESIDENT JOHN GORHAM

The RC helicopter movement is not just growing - it is exploding. 1987 saw the FAI 2nd World Helicopter Championships held in Bern, Switzerland. 33 countries entered. An 18 year old United States flier from Texas, Curtis Youngblood, won first place. He flew a GMP Competitor Ranger. In 1987, GMP helicopters were also flown by the winners of the 1st places in every class of the United States National Championships as well as 1st places in the U.K. and Canadian Championships.

Many new helicopters became available in 1987 - GMP sold nearly 10,000 of our own and we started to export as well. Our range expanded to 18 different models - 1987 saw the advent of our new Hirobo/GMP Stork Special Edition - another joint venture by our two companies.

1987 also saw the standard of flying all over the world improve dramatically. Autorotation and inverted flight are now commonplace. The reliability of our helicopters has really improved too. A unique event of 1987 was the delivery of our first six 1/5 scale Hind-D helicopters to the U.S. Army. GMP is proud to be the United States leader in this growth of RC "choppers" and plans to "keep 'em coming!"

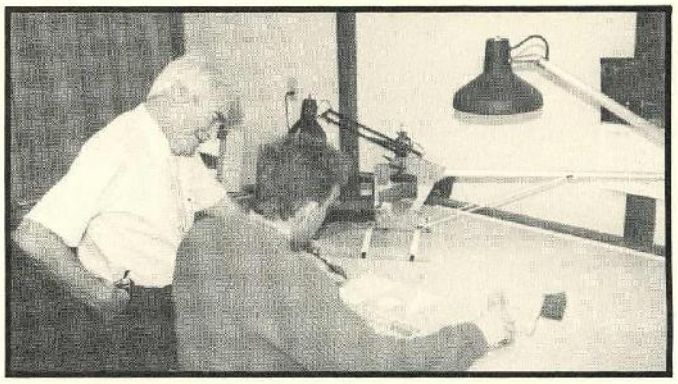
In 1988 we offer you two versions of a new and improved Shuttle and a new contest RC helicopter designed and produced by GMP. Hirobo's new 1988 helicopters include yet another first - a .32 powered twin rotor scale Chinook! We also offer Hirobo's new improved Giant scale Iroquois and Bell 47G. Our cooperation with Hirobo Ltd of Japan now extends into its 8th year. We are proud to be able to offer you the world's finest range of GMP and Hirobo RC helicopters.

Why not make 1988 your year to join the wonderful world of RC helicopters. This catalog and our new video can show you how.

Some of the GMP staff with our first delivery of the 1/5 scale Hind 'D' helicopters.

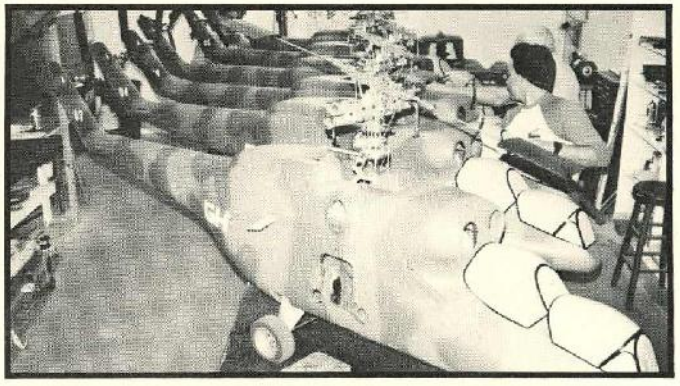
DESIGN

Many of GMP's RC helicopters are designed and manufactured in the U.S.A. **CRICKET, HUGHES, COMPETITOR** and **COBRA** are either totally or partially designed by us. Joint design efforts with the leading Japanese manufacturer - Hirobo - are proving to be very successful. COBRA is a good example with roughly 50% design and manufacture in each country. The new hi-tech **STORK SPECIAL EDITION** is another. GMP's design facilities are in-house and staffed by professionals. Additional efforts needed are provided by top ranking industry consultants. Apart from continuing efforts to provide the modeler with the finest RC helicopters possible, GMP's talents are now being utilized by the U.S. military to design and build large size target and drone helicopters involving fully automatic flight control. The manufacturing rights of the 1/5 scale Drone have been granted by GMP to Boeing of Canada, Ltd.



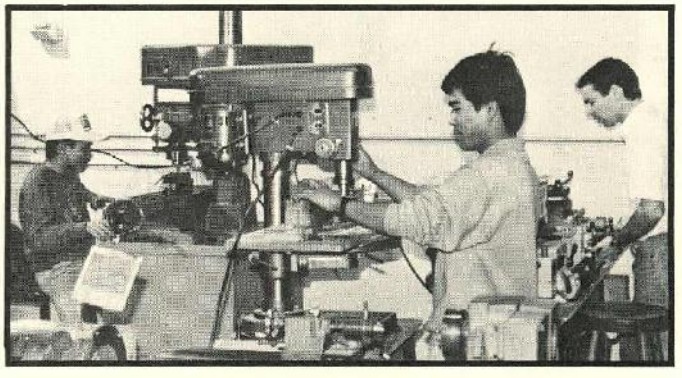
R & D

No high technology company such as GMP can survive and grow without continuous research and development. GMP has built and maintains special facilities to enable constant efforts to be expended in improving the design features of current helicopters and in preparing the prototypes for future production and sales to you - our customer. Problems which may arise with our products are evaluated and solved in our R & D facilities. Design improvements are passed on to the design and production departments for the earliest incorporation in our kits. The GMP R & D group also provides test building and rigorous flight evaluation of all our products before they are released for production. As a result, GMP kits enjoy the reputation of having the finest building instructions and the best flight performance in the industry. Our R & D facilities are currently engaged in on-going development of the Drone helicopter; plus many other exciting new developments in the RC model field.



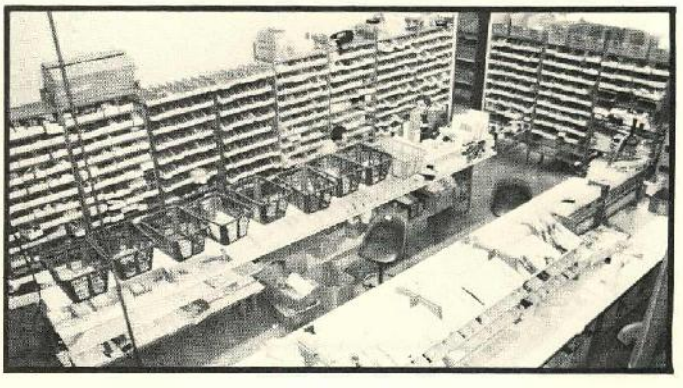
MANUFACTURING

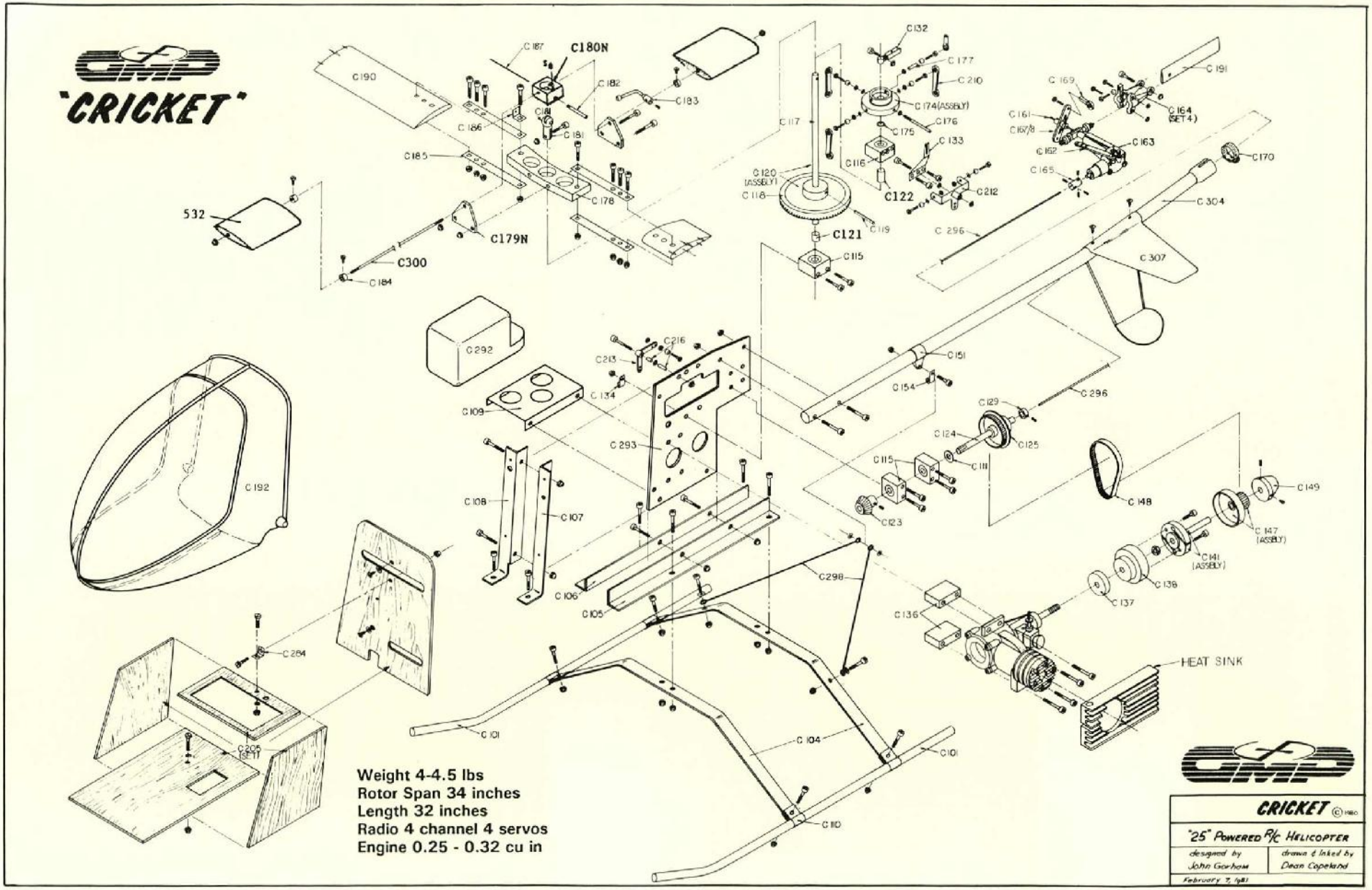
GMP possesses its own complete in-house machine shop facilities and manufacturers all prototype helicopters for evaluation by its own design and R & D groups and other selected fliers. Subassembly of the mechanical units used in production GMP helicopter kits is performed in-house. Rotor blades are cut and drilled from stock. All vacuum formed plastic parts are produced in the GMP facilities. Large volume machined and sheet metal parts are designed and drawn in-house and then sub-contracted out to one of more than 80 sub-contractors that regularly manufacture/supply GMP parts and supplies. A double inspection technique is standard on the sub-assemblies and packing of GMP parts and kits. Some of our major subcontractors have been part of the GMP team for over eight years now. Consequently, GMP's work gets high priority attention.



SERVICE

The seal of success on any kit manufacturer such as GMP is the quality and extent of its after-sales support. A plentiful and uninterrupted supply of parts call for a very large and expensive inventory. GMP holds , in-plant, a stock of over $1.5 million of parts and accessories for all its helicopters. Fast and friendly supply of these parts is assured by the Calabasas, California, USA depot. This facility has several technicans / fliers who can provide answers to your questions. Parts are also now widely available in more than 1,000 hobby stores nationwide. These stocking hobby stores are growing daily. Our order desks have special 800 lines for dealers to expedite their orders which are normally processed by us the day they are received. They are shipped by UPS, Federal Express or any one of the other carriers - all of whom serve the Los Angeles area. All incoming and outgoing foreigh shipments are handled by GMP's own brokers in Los Angeles. GMP produces and ships between 700 and 1,000 helicopters every month! GMP has and will maintain the finest service in the industry.




"CRICKET"
C180N
C179N
C300
C122
C121
C304
C307
C296
C292
C293
C298
C192
C284
C205 (SET)
C101
C104
C110
HEAT SINK
Weight 4-4.5 lbs
Rotor Span 34 inches
Length 32 inches
Radio 4 channel 4 servos
Engine 0.25 - 0.32 cu in
CRICKET © 1980
"25" POWERED R/C HELICOPTER
designed by John Gorham
drawn & inked by Dean Copeland
February 7, 1981

CRICKET #C100

GMP (Gorham Model Products, Inc.) was started in 1979 as a subsidary company of Gorham Associates, aircraft design consultants to industry and government. John Gorham, a model airplane enthusiast all his life, discovered (like many others) the RC helicopter challenge in 1970. By 1978 he was convinced that a small, inexpensive, simple RC helicopter was needed if RC helicopter flying was to become widespread. John used the KISS (Keep it simple, stupid!) and the SAAL (simplificate and add lightness) principals in combination with his extensive engineering design experience and background. The result was **CRICKET**, which was introduced to modelers in 1979. It has been selling consistently ever since and more than 15,000 **CRICKETS** have been delivered all over the world.

To summarize, **CRICKET** is the perfect solution for the beginner who wants to start into RC helicopters but doesn't want to commit too much money. It is also an excellent choice for the expert who wants to have something a little simpler, or a little less costly, to 'mess' around with in his own home or on weekends or when he goes away for a family vacation. When you own a **CRICKET** you will be amazed at its simplicity and performance. We believe this RC 'chopper' has set a new standard for small RC helicopters.

Quite apart from its design and manufacturing excellence, **CRICKET** also comes with two extra features which will enhance its value to you over other similar machines. First, **CRICKET** parts are manufactured in the USA and the materials, tolerances and finishes are equal to those on full sized machines.

Second, and also vital to your successful learning and flying, technical advice is available nationwide. A network of dealers and technical service centers insure the support that the heli-flier needs. **CRICKET** owners also receive service bulletins which cover all the problems which beginners have in learning to fly or in adjusting their machines. **CRICKET** comes with it's unique rotor head and tail gearbox fully assembled, plywood parts accurately diestamped and all other metal parts are fully machined. A very complete instruction manual covering building and flying comes with your **CRICKET** kit.

HUGHES 300C

A unique small scale RC helicopter, the GMP **HUGHES 300C** uses the reliable **CRICKET** transmission and controls in a very scale-like arrangement. The 0.25 to 0.32 powered **HUGHES 300C** is available as a complete kit or as a conversion kit for **CRICKET** owners. Not recommended for complete beginners.

Complete Kit #H300
Conversion Kit #H300C

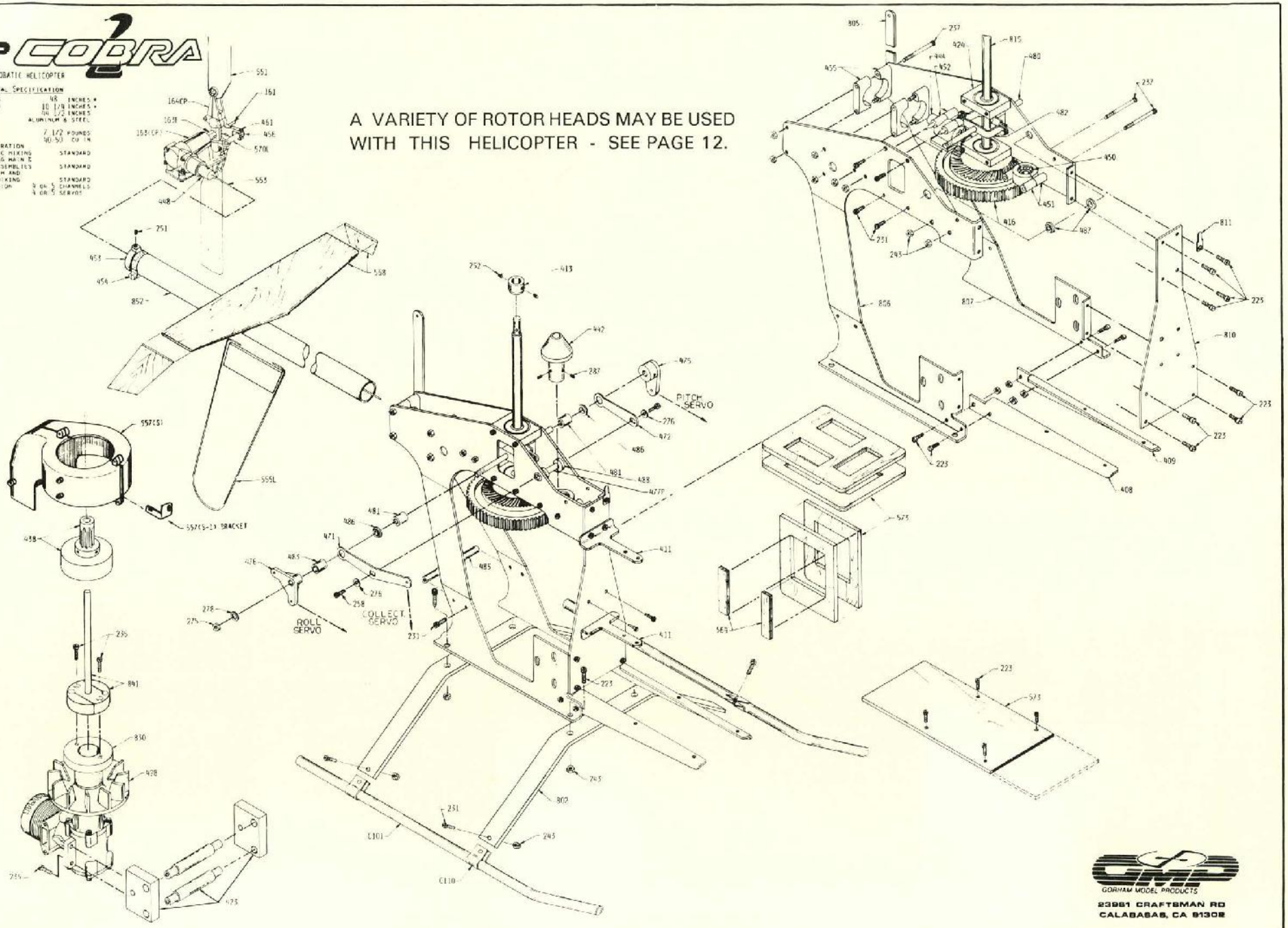
GMP COBRA 2

R/C AEROBATIC HELICOPTER

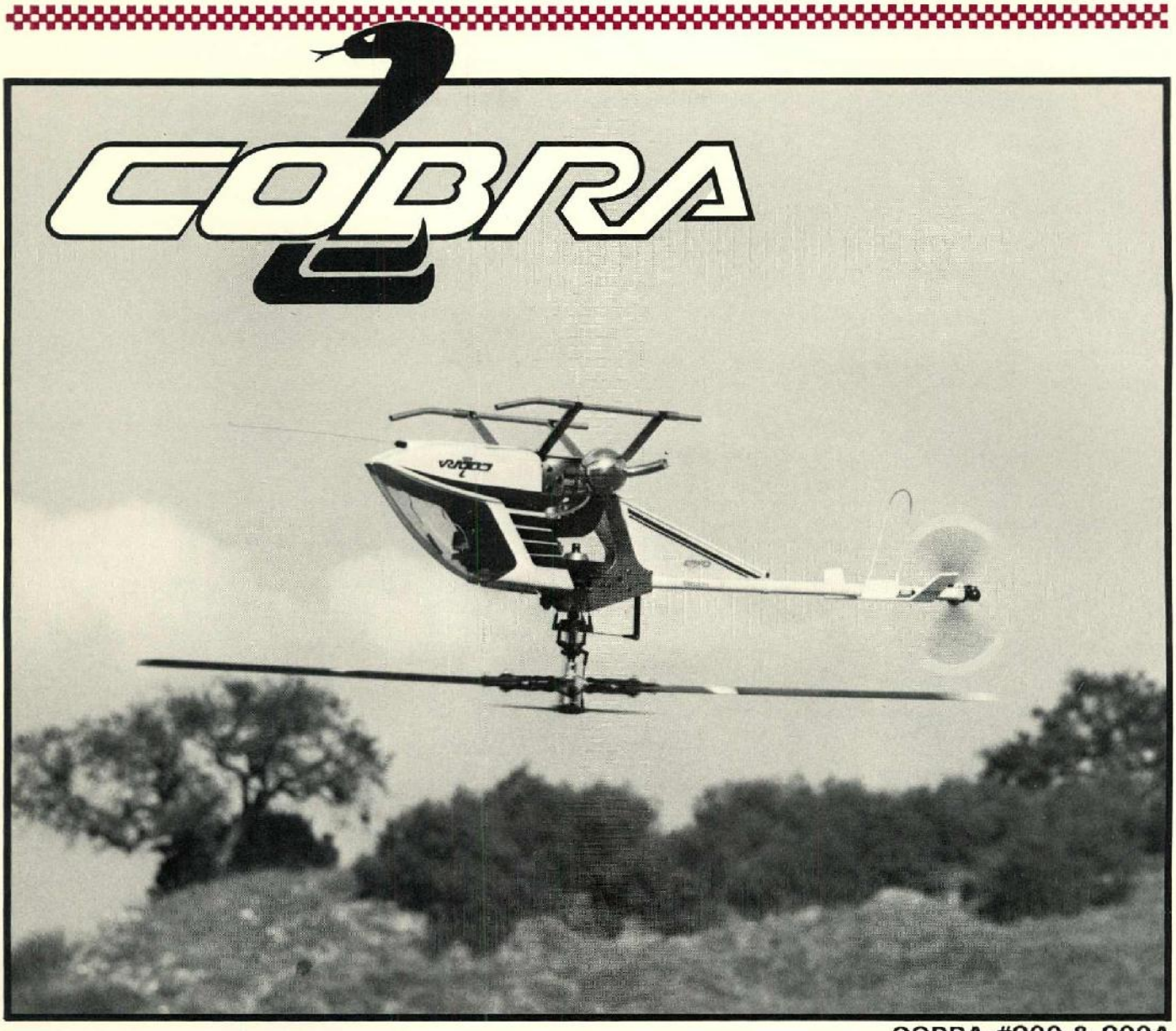
Technical Specification

MAIN ROTOR SPAN	48 INCHES *
TAIL ROTOR SPAN	10 1/8 INCHES *
OVERALL LENGTH	58 1/2 INCHES
CONSTRUCTION	ALUMINUM & STEEL
WEIGHT (LIGHT)	
READY TO FLY	7 1/2 POUNDS
ENGINE SIZE	90-.93 CU IN
MULTI-SERVO OPERATION	
FOR ELECTRONIC MIXING	STANDARD
ALL BALL BEARING MAIN & TAIL ROTOR ASSEMBLIES	STANDARD
COLLECTIVE PITCH AND BELL/HILLER MIXING	STANDARD
RADIO INSTALLATION	5 OR 6 CHANNELS 4 OR 5 SERVOS

A VARIETY OF ROTOR HEADS MAY BE USED WITH THIS HELICOPTER - SEE PAGE 12.



GMP
GORHAM MODEL PRODUCTS
23961 CRAFTSMAN RD
CALABASAS, CA 91302



COBRA #800 & 800A

AMERICAS' MOST POPULAR MID-SIZE RC HELICOPTER

SPECIFICATIONS:

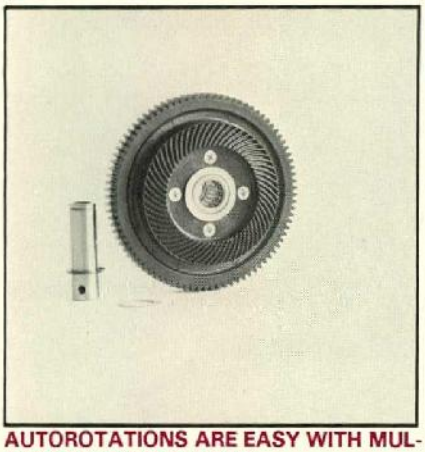
COBRA is a 40-60 powered, fully aerobatic RC helicopter, specifically designed to be suitable for beginner, intermediate and expert fliers. Hovering and forward flight stability is unsurpassed while aerobatic performance is nothing short of breathtaking. COBRA can perform all AMA and FAI aerobatic maneuvers. COBRA is the result of many years of design and development by the world's two top design teams: Hirobo and GMP. The final product exemplifies team development and state-of-the- art production--50% of COBRA in the USA, 50% by Hirobo of Japan.

WEIGHT	7 to 8	lb	(3.5 Kgs.)
ROTORSPAN	50	in	(127cm)
LENGTH	44	in	(112cm)
HEIGHT	18	in	(46cm)

FEATURES:

- Top cone start
- Machined steel clutch with dual ball bearings
- Full collective pitch
- Bell/Hiller mixing
- 30 precision ball bearings
- Factory assembled main rotor head
- Heavy duty 10mm main shaft
- Main blade holders have dual precision ball AND hardened steel thrust bearings
- Tail blade holders fitted with ball AND thrust bearings
- Dual ball bearing tail pitch plate
- Main rotor blades finished and balanced. Advanced design semi-symmetrical high-efficiency aerofoil
- Top quality ball joints and control rods included
- Space age look-low drag canopy
- 4 or 5 servo installation
- Step-by-step assembly, set-up and flying instructions

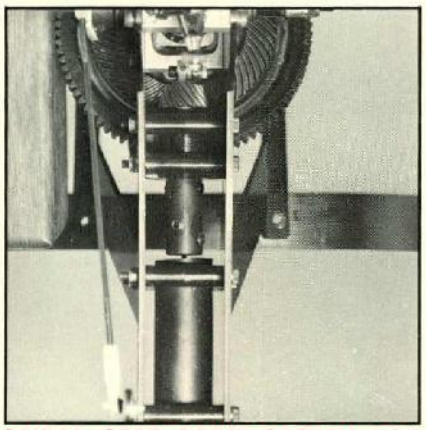
SPECIAL FEATURES OF GMP'S HELICOPTERS



AUTOROTATIONS ARE EASY WITH MULTIPLE BEARING CLUTCH

The rotor blades of COBRA/COMPETITOR helicopters have a semi-symmetrical section. This factor helps in ensuring their superior autorotation capability and general all-round performance. In fact, many flyers have reported the ease with which their helicopters can be landed after a "real life" engine failure. The **GMP COBRA/COMPETITOR** autorotation gear is also fitted with three needle bearings, rather than the single one used in some other 40 and 60 powered helicopters.

Because the quality of the controls of any flying machine will dictate the final performance, particular emphasis has been placed on the control system of **COBRA/COMPETITOR.** You will find many more ball and thrust bearings in the our machines than in any other similar RC helicopters. The purpose of this is to provide a very "tight" control system so that all inputs from the transmitter will be immediately and fully available at the control surfaces. This is a prerequisite to fine quality performance in any flying machine, but especially in an RC model helicopter.



SPIRAL GEAR DRIVE SYSTEM FOR LONGER LIFE

The standard starting system of the GMP helicopters is the top cone start now demanded by discriminating American modelers. This means extra expense in design and manufacturing of the helicopter but the inclusion of this feature greatly eases the starting process and eliminates any problems which sometimes arise when using a starting belt.

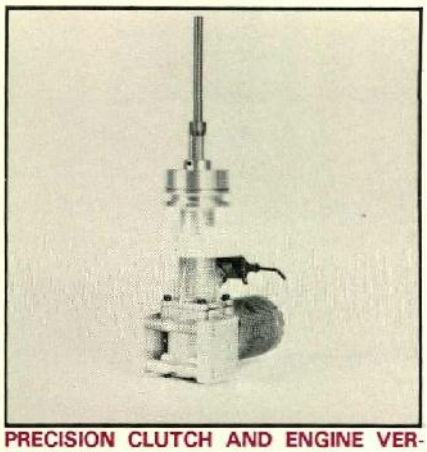
ADVANCED ROTOR HEAD PROVIDES PRECISION AEROBATICS

Although our helicopters have been designed to be rugged, they utilize advanced and lightweight construction techniques so that they will fly with engines ranging through a .46 to .61 cu. in. **COBRA** and **COMPETITOR** give excellent results with a .50 engine but can also be flown with a .46 or .60 size.The use of a good .46 size engine is, in fact, perhaps preferable for the beginner who is just transitioning into his first aerobatic helicopter. Don't forget that you can change the size of your engine when you are ready for more power.

Our clutch is a classic one–piece design, manufactured from the highest quality steel, superior and reliable. It is several times more expensive to manufacture than other plastic and two-piece metal clutches available today but it gives smoother engagement and drive performance and will virtually last "forever". It has been "adopted" by even the very latest helicopters and has become an industry standard.

TRIPLE, ADJUSTABLE BEARINGS FOR CONTROL POWER

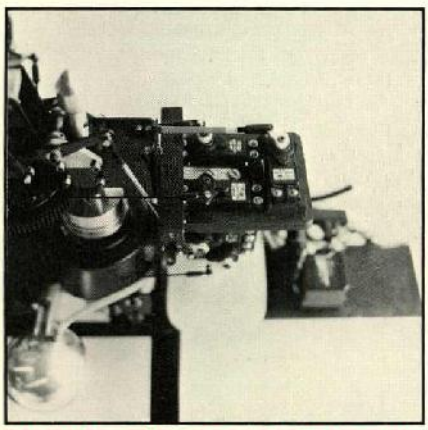
The main drive gear is of a very sturdy construction and the tail drive gear track provides a very wide contact area because the tail drive steel pinion is of an advanced spiral hypoid design. This means less likelihood of damage to the gear. Should the gear be damaged, however, a replaceable part can be easily fitted at a very low cost.



PRECISION CLUTCH AND ENGINE VERSATILITY

The blade holders and blade arms are integral and each holder rotates in two high quality ball bearings plus a thrust bearing (another first!). Compare with helicopters using one ball bearing and one needle bearing only. High centrifugal loads which helicopter blades experience need thrust bearings and **COBRA** and **COMPETITOR** has them. In fact, both main and both tail blade holders have ball and thrust bearings. And how about double ball bearings in the pitch plate of the tail control system!

GMP **COBRA/COMPETITOR**'s are designed for either a 4 or 5 servo installation. With the larger collective pitch helicopters it is an advantage to use 5 servos since the high forces experienced in moving the collective pitch in the helicopter are best handled by a dedicated servo, leaving another one to operate the throttle. This is by no means necessary and, provided the servos are good enough, GMP's machines can certainly be flown well with 4 servos. Any of the inexpensive 4 channel radios available today can be used. When using a helicopter radio, however, 5 servos are necessary if the full advantages and features of the radio is to be used.



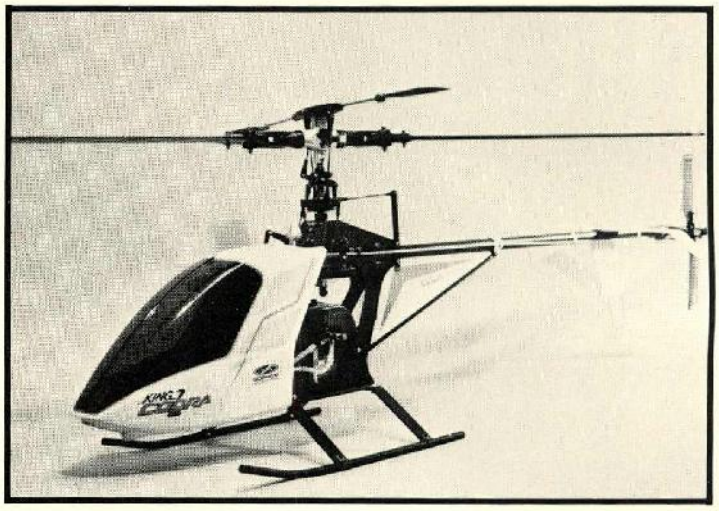
COMPACT AND VERSATILE RADIO INSTALLATION

GMP KING COBRA #800KCA

KING COBRA is a .60 cu.in powered contest version of the ever-popular Cobra helicopter. All black anodized, the **KING COBRA** includes the **"PRO"** head, as used by Curtis Youngblood in the 1987 World Championships, and autorotation as standard features. **KING COBRA** is longer than **COBRA** by 3.5 in. to allow the use of the larger diameter rotor blades used by many contest fliers.

ROTOR SPAN	55 in.
ENGINE	.60 size.
WEIGHT	9 lbs.
RADIO	4-5 Channel - 4-5 servos.
LENGTH	48 in.

A special helicopter radio is suggested to match the performance of this machine.



GMP's JET RANGER

CHOICE OF CHAMPIONS.

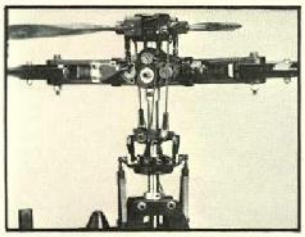
The contest winning qualities of the **COBRA** are further improved by the addition of GMP's superb scale epoxy fiberglass **JET RANGER FUSELAGE. #800JR.** The GMP Ranger placed 1st and 2nd in the 1987 World Championships U.S.A. team trials, 1st and 2nd in the 1985, 1986 and 1987 U.S.A. Nationals and placed 1st and 5th in the 1987 World Championships held in Bern, Switzerland. An excellent enhancement for your COBRA when you are ready to handle it's sparkling performance. Made in California -- light weight , budget priced! Undoubtedly the most popular scale fuselage available. GMP's **Bell Jet Ranger** is also available as a complete kit of the **COBRA** helicopter and the Jet Ranger fuselage.**#800JRM**

GMP *COMPETITOR* #500A

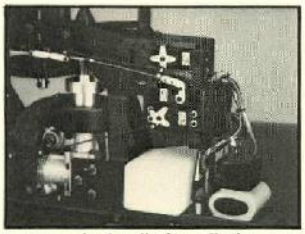
GMP's **COMPETITOR PRO** has the finest "championship" performance record in the industry. GMP's COMPETITOR PRO fitted into a GMP **RANGER** fuselage (flown by Curtis Youngblood) took **first place** in the **1987 World RC Helicopter Championships,** held in Switzerland and the **1986** and **1987 AMA National Championships.** One of the major factors in its extraordinary success is that the control system provides very "tight" control. Also because of the careful blending of response damping and control power, both **COMPETITOR** and **COBRA** offer you the best machine for winning.

MAIN ROTOR SPAN		48-55 in.
WEIGHT READY TO FLY		8.5 lbs.
TAIL ROTOR SPAN		10-11in.
RADIO	4- 5 Channels	5 Servos
OVERALL LENGTH		50 in
ENGINE		.46-.61 cu.in.

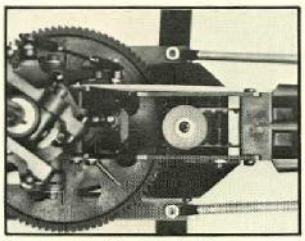
STORK
Special Edition
#10SE



World famous DDF rotor head



New vertical radio installation tray



New toothed-belt tail drive system

ROTOR SPAN	54 in
ENGINE	.45 TO .60 size
WEIGHT	8 - 9 lbs
RADIO	5 channel 5 servos
LENGTH	51.5 in

A special helicopter radio is suggested to match the performance of this machine.

HIROBO AND GMP TEAM UP FOR THE NEW STORK "SPECIAL EDITION"

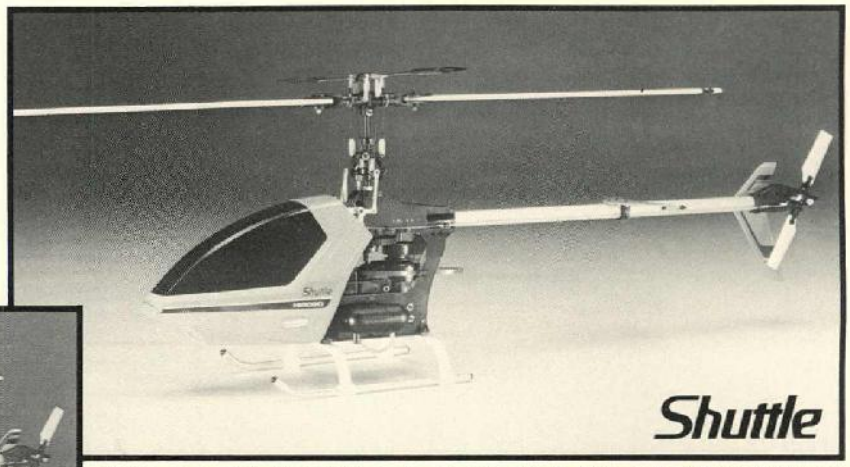
GMP, working in cooperation with Hirobo, have taken the latest example of a hi-tech helicopter and have customized it especially for the American market. We are very excited about the flying capabilities and space-age look of our Stork **"Special Edition"**. Among its standard equipment, the Stork **"Special Edition"** has state-of-the-art features such as an advanced **DDF rotor head** (dual-damping flapping), an innovative non-slip tooth belt tail drive system, an in-line swashplate, octagonal tail boom for added strength, all metal vertical radio installation tray and other ' first time' new ideas.

Many of the GMP's Stork **"Special Edition"** parts are made of hi- tech fiber-filled plastics for added strength and lightness. The main frames and other high stress parts are made of aircraft quality aluminum. The GMP Stork **"Special Edition"** can be fitted and flown with any 50-60 sized engine available in the US marketplace.

Shuttle

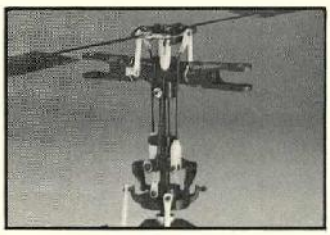
HIROBO'S ASSEMBLED RC HELICOPTER

NEW - IMPROVED SHUTTLE #727 and SHUTTLE XX #727X



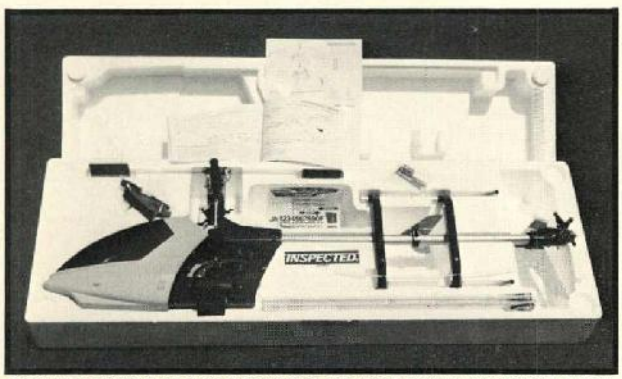
Collective pitch, Bell/Hiller mix, toothed belt drive tail. All the features of the larger more expensive machines - AND it comes assembled (Except for fitting rotor blades, landing gear, engine and radio equipment.)

RADIO AND ENGINE NOT INCLUDED - SOME ASSEMBLY REQUIRED.



ROTOR SPAN	41 in
ENGINE	. 25 - 32 size
WEIGHT	5 lbs
RADIO	4- 5channel 4-5 servos
LENGTH	39 in

SHUTTLE's new rotor head is state of the art floating axle - Full Bell/Hiller mix, dual stabilizer control arms and light weight stabilizer blades.



SHUTTLE COMES NEATLY PACKED IN ITS OWN FOAM CARRYING CASE.

Shuttle scale fuselage kits

Hirobo produces an ever expanding range of scale fuselages for 'Shuttle'. Wait though - not only is the scale kit complete and ready to assemble on your Shuttle - but these fuselages come fully painted and decorated, no painting at all to do. Great time saver!

722P JET RANGER PAINTED

#720HP HUGHES 500E PAINTED

721P ECUREUIL PAINTED

America's most popular 25-32 size collective pitch helicopter has now been redesigned and improved. Flight performance range expanded. Easier to learn on - Expert class aerobatics.

NEW ROTOR HEAD, TAIL CASING, MAIN FRAMES AND COLLECTIVE MECHANISM.

- A new floating, single axle rotor head to provide stable aerobatic performance. Taller main shaft. Boom strikes virtually eliminated.
- Redesigned and strengthened Main Frames
- Improved tail casing
- Redesigned and simplified collective mechanism

Also available, the New Shuttle XX with 18 extra ball bearings, for that extra smoothness and breath-taking, contest winning performance !

TWO MORE NEW RC HELICOPTERS FROM THE HIROBO/GORHAM TEAM

SCALE DDF HEAD AEROBATIC HELICOPTERS

WAY AHEAD OF THEIR TIME:

Aerobatic - will perform all AMA/FAI manuevers
New high tech swashplate and washout controls
Superbly detailed fiberglass fuselage
Mechanics (Eagle) easily removable
Inverted flight capability

AGUSTA 109A

60 CLASS SCALE AEROBATIC HELICOPTER
Main Rotor Span 1,560m/m (61.4")
Tail Rotor Span 310m/m (12.2")
Fuselage Length 1,425m/m (56.1")
Full-equipped Weight 5100g (11.2 lbs)
Engine 60-61 class
Radio 5ch.5servo Helicopter Radio

FITS 'EAGLE' MECHANICS SET

FUSELAGE KIT #717

JetRanger

60 CLASS SCALE AEROBATIC HELICOPTER
Main Rotor Span (61.4")
Tail Rotor Span 310m/m (12.2")
Fuselage Length 1,410m/m (55.7")
Full-equipped Weight 4,800g (10.5 lbs.)
Engine 60-61 class
Radio 5ch.5servo Helicopter Radio

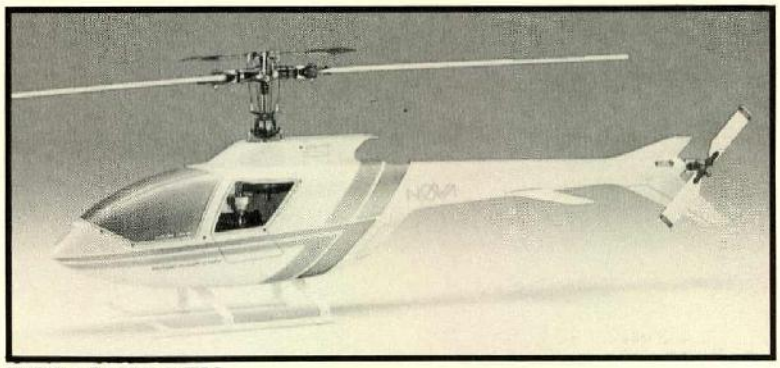
FITS 'EAGLE' MECHANICS SET

FUSELAGE KIT #715

NOVA

60 CLASS SEMI-SCALE AEROBATIC HELICOPTER
Main Rotor Span 1560mm (61.4")
Tail Rotor Span 310m/m (12.2")
Fuselage Length 1,410m/m (55.7")
Full-equipped Weight 4,800g (10.5 lbs.)
Engine 60-61 class
Radio 5ch.5servo Helicopter Radio

FITS 'EAGLE' MECHANICS SET



FUSELAGE KIT # 722

écureuil 2

60 CLASS SCALE AEROBATIC HELICOPTER
Main Rotor Span 1,600m/m (63")
Tail Rotor Span 310m/m (12.2")
Fuselage Length 1,510m/m (60")
Full-equiped Weight 5,100g (11.2 lbs.)
Engine 60-61 class
Radio 5ch. 5servos Helicopter Radio

FITS 'EAGLE' MECHANICS SET

FUSELAGE KIT #721

WANT TO OWN AND FLY THE UNUSUAL?
HIROBO TRY GIANT SCALE OR A TWIN ROTOR HELICOPTER

GIANT SCALE HELICOPTERS

Completely revised and improved, Hirobo's **1988 Giant Scale Helicopters** are now available. These almost perfect scale helicopters utilize a new 25cc engine and twin 71 inch main rotor blades. Interior and exterior details are spectacular. If you want to own the largest and the finest in the world - go for one of these new Hirobo giant scale RC helicopters.

SPECIFICATIONS:

BELL HUEY UH-1B Iroquois GX-25	
Rotor span	71 in.
Engine	25 cc HGE-25EH (included in kit)
Weight	16 lbs.
Radio	4-5 channel 5 servos

Bell 47G-2	
Rotor Span	71 in.
Engine	25 cc HGE-25EH (included in kit)
Weight	15 lbs.
Radio	4-5 channel 5 servos

#706

Note: These unique models are limited editions by special order only.

#707

Boeing Vertol KV-10711 "Chinook"

HIROBO DOES IT AGAIN. A new first in RC helicopters - a 0.32 powered, twin rotor Boeing Vertol "Chinook"! Will be unveiled at the 1988 Toledo show and available in Summer 1988. The CHINOOK has twin three bladed rotor systems and uses the now proven toothed belt-drive.

ROTOR SPAN	40 in
ENGINE	.32 size
WEIGHT	8 - 9 lbs
RADIO	5channel 5 servos
LENGTH	39 in

A special helicopter radio is suggested to match the performance of this machine.

#711

SST-EAGLE FAI 60 CLASS AEROBATIC HELICOPTER

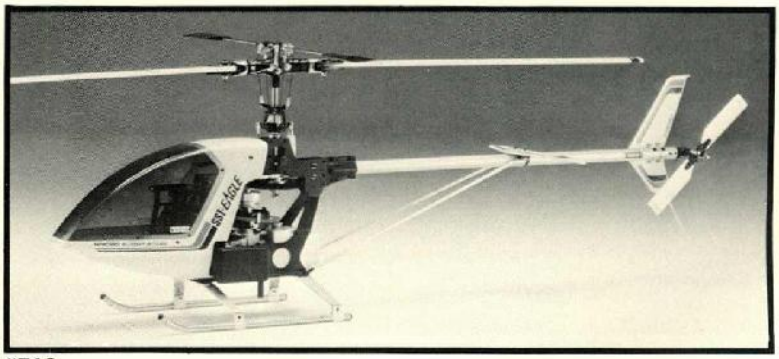
HIROBOS LATEST 60 POWERED HELICOPTER

Top-of-the-line in the Japanese market - EAGLE typifies the very latest design and fine precision machining.

EAGLE mechanics are used in the DDF-SST Scale range shown on the opposite page.

ROTOR SPAN	59 in
ENGINE	60-61size
WEIGHT	10 lbs
RADIO	5channel Helicopter radio
LENGTH	52.5 in

SST SCALE FUSELAGES USE EAGLE MECHANICS



#710

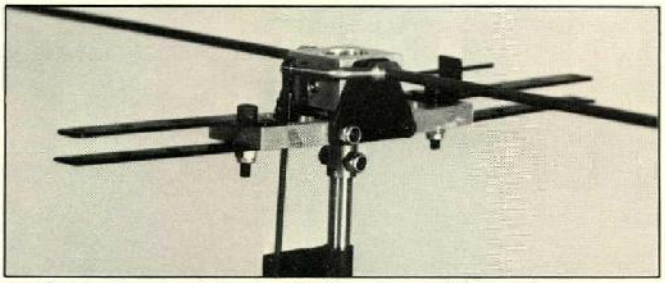
HELICOPTER ROTOR HEADS

GMP helicopters use a variety of the finest rotor heads available. They range from the tried and tested simple, **fixed pitch** head used on **CRICKET** to the all-metal, engineering excellence of the Hirobo **DDF** rotor heads.

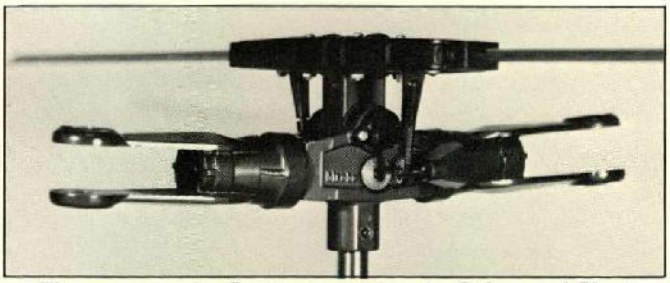
In many cases, heads can be interchanged on different GMP machines. Each is designed with a different purpose in mind and the appropriate head has been made standard on most GMP helicopters. For instance, the very popular **CUSTOM** head is used on the **COBRA**, #800 & 800A, **COBRA scale mechanics kit**, #800M & 800MA, and giant scale. This head has very scale-like appearance but can at the same time deliver competition class flight performance.

"PRO" head - choice of champions- is used on **King Cobra**, #800KCA, and **COMPETITOR**, #500A. Considered the best competition rotor head ever made. **DDF** heads are used on **STORK SE**, #10SE, and **SST SCALE**. Excellent all-round performer, especially in turbulent air.

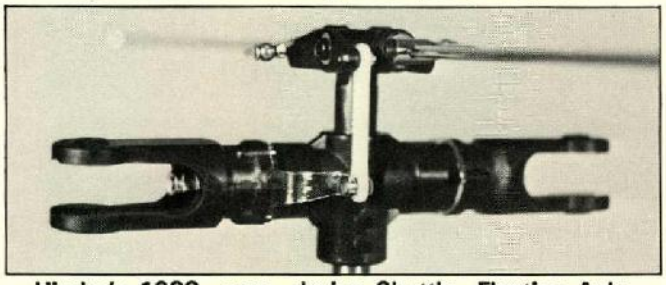
Whichever head you use, it will be the finest available to suit your style of flying. Many heads come fully assembled and **every** GMP/Hirobo rotor head has **at least** the more difficult assembly work already done for you.



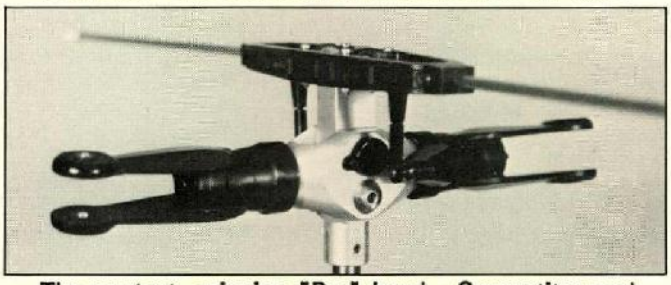
Cricket's simple but effective fixed pitch rotor head. Comes assembled--ready to fit flybar and blades.



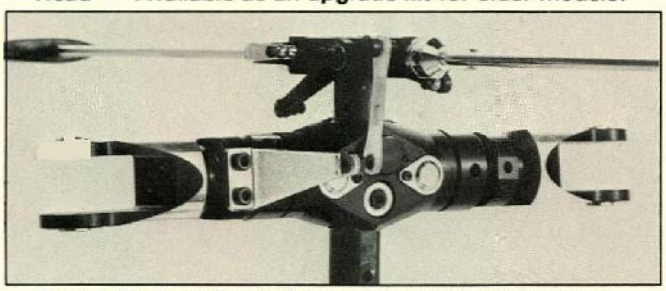
The ever popular Custom rotor head - Cobra and Giant Scale Kits - Also standard in mechanics kit for scale.



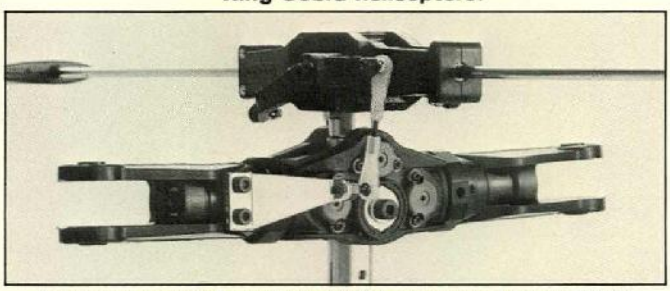
Hirobo's 1988 new design Shuttle Floating Axle Head - Available as an upgrade kit for older models.



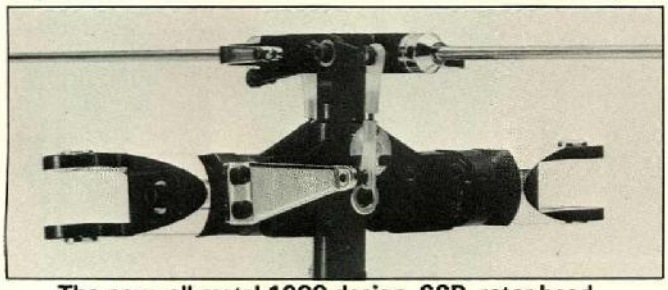
The contest winning "Pro" head - Competitor and King Cobra helicopters.



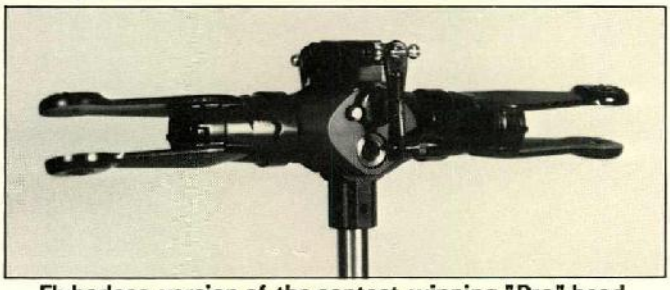
Top-of-the-line all-metal precision machined dual dampened head World's best Available separately.



Injection molded version of the machined Dual Dampened head used on the Stork Special Edition.



The new all metal 1988 design SSR rotor head. Available separately.



Flybarless version of the contest winning "Pro" head. Only available as a separate item.

TAIL ROTOR DRIVES

GEARS OR BELTS?

The tail rotor drive on our RC helicopters is a very important part of the whole system. Tail control is notably "skittish" - and many pilots use a gyro to help reduce the unwanted activity "back there".

However, an accurate and "slop" free system is needed to enable the flier to have precise control when needed for the advanced rotational maneuvers which are one of the most colorful and inspiring differences between the flight of a 'mere' aeroplane and a helicopter

Advanced helicopter fliers can perform 4 point pirouettes in the hover or even while flying in fast forward flight (see our video). Because of the importance and dependency on good tail rotor control, Hirobo and GMP insist that the very finest design and construction is employed in their tail rotor systems.

The standard tail rotor drive gearing on the "front end" of **Cobras** and **Competitors** uses very advanced design spiral hypoid gears - a quiet and efficient method unique to our machines. Compare with the straight spur gear system of other makes.

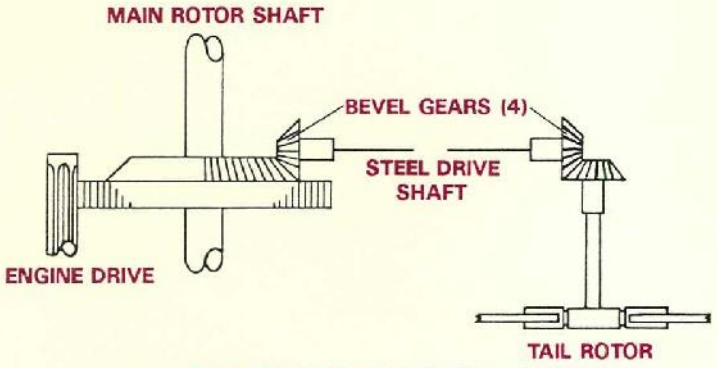
The rear drive uses a very light but beautifully made all-metal gearbox which provides low friction but very precise control also using dual spiral hypoid gears. This gearbox (shown in the photo) is **standard** on the GMP **Cricket, Cobra, Competitor** and Hirobo **Giant Scale.**

In late 1986, Hirobo startled the model world by reintroducing the belt drive system. A belt drive was used on early RC helicopters - but with a big difference - the belt was smooth and frequently slipped. Using modern technology to the full, our new tail drive system uses a hi-tech composite toothed belt drive developed and used by many industries today as a light and reliable method to transmit rotary motion.

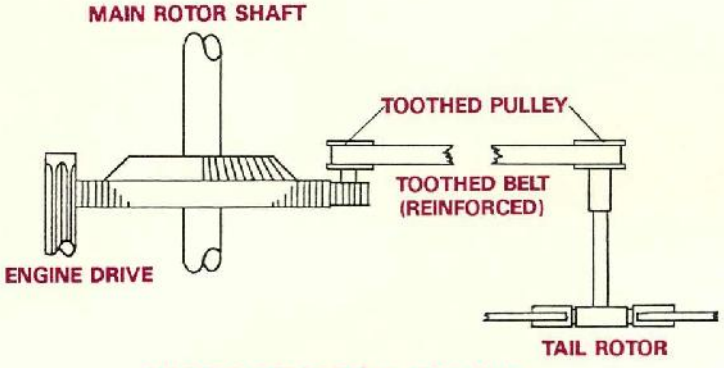
The first use of this dramatically new system was on the Hirobo **Shuttle.** It was very successful and flyers soon appreciated the tighter tail control (and hence more accurate maneuvers) which the use of this drive gave to their helicopters.

The GMP Stork **"Special Edition"** also uses the toothed belt drive on a .60 size machine with the same result - reliability and tighter control.

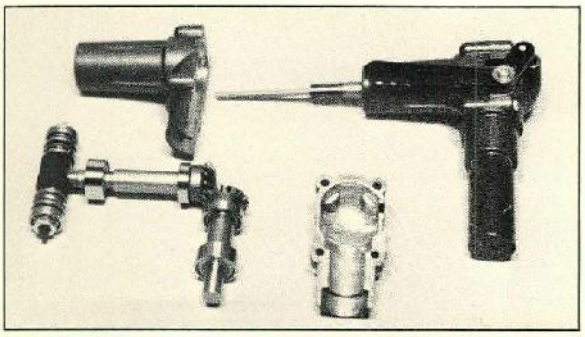
Controversy will continue on which drive is superior but one thing is sure - the toothed tail belt drive is here to stay. Our latest tail belt drive "rear end" is shown in the photo on this page. Our new helicopters are designed so that you may have the choice of either gear or belt drive systems without modification to your helicopter -- **YOU DECIDE.**



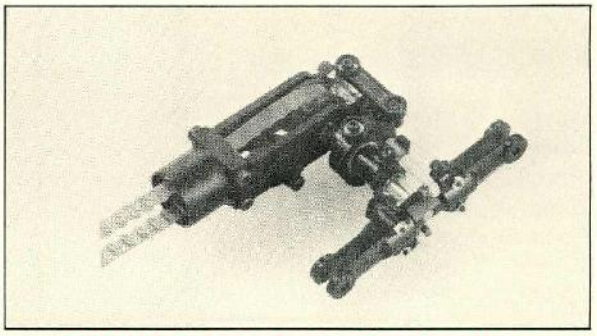
GEARED DRIVE TAIL ROTOR



BELT DRIVE TAIL ROTOR

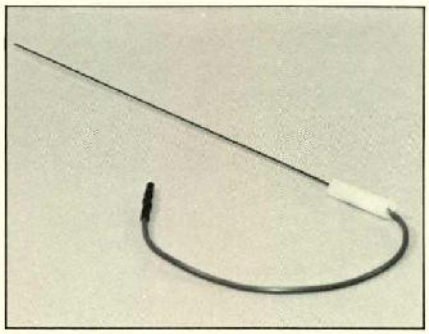


GMP's Tail rotor gearbox unit.



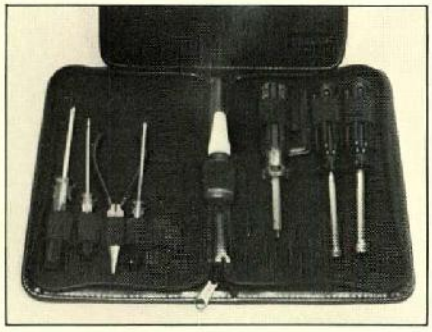
GMP's Belt drive tail rotor unit.

ACCESSORIES



WHIP ANTENNA #673

Gone forever is the nightmare every heli-flier dreads...stepping on a 3-foot antenna and ripping it off the front of your prized chopper just as it's ready to fly. Base loaded, this short whip antenna gives "hidden performance". Less than 7" long it can be mounted to project in front of your helicopter or lie inside the canopy where it is virtually invisible (but still effective).



HELICOPTER TOOL KIT #635

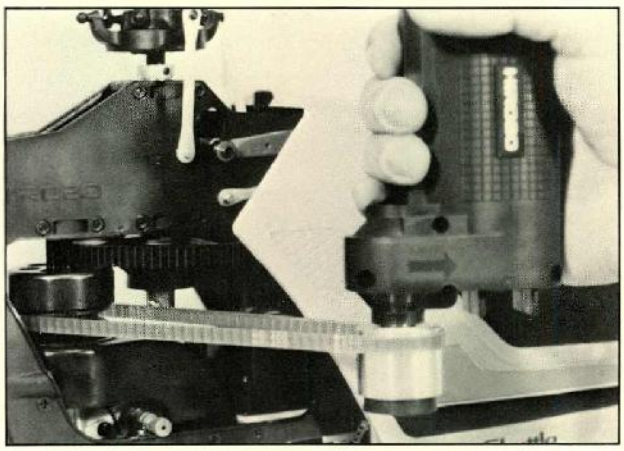
The GMP helicopter tool kit contains the tools needed to build and maintain an RC helicopter which may not be readily available in the local hardware store. This kit is also a very convenient way to take the essential tools needed to maintain your helicopter during a long flying session. The kit includes a generous supply of blue 'lockite', ball joint pliers, two metric hex drivers, two metric nut drivers, phillips and flat blade screwdrivers. The kit comes fitted into its own leatherette zip-up case. A must for every new helicopter owner.

HELICOPTER HANDBOOKS # 600-606

GMP stocks all current books on the subject of RC model helicopters. The average cost each is $15 to $20. Each one covers the subject a little differently but basically they all describe how a helicopter works, how it is built and how to fly one. GMP's John Gorham has written his own handbook based upon his experiences since RC helicopters were first flown and his own five year series of monthly helicopter columns. The coverage of his book is aimed at being informative for entry level and intermediate pilots. It will be available in June 1988.

TRAINING GEAR #614 small and #615 large

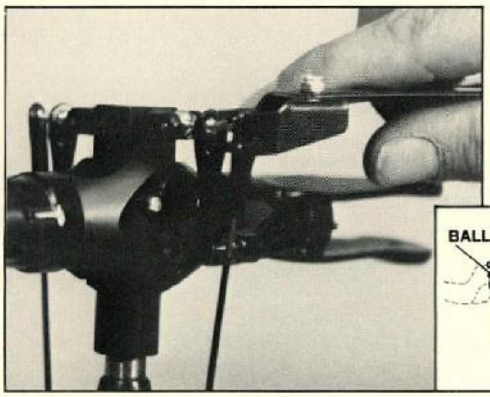
Lightweight and easy to fit, GMP's "Training Wheels" are the perfect answer for the beginner looking for some extra stability while you are learning how to hover. They extend your landing gear to help prevent "tip-overs" in the early stages and minimise the consequences of mistakes which can result in replacement part expense and the down-time this also causes just when "you're getting the hang of it". Yes, it is possible to learn to fly without breaking even one set of blades, and GMP's "Training Wheels" are a perfect help ! You may also order our Training package #614/5S which also includes the video tape and some illustrated beginners instructional leaflets.

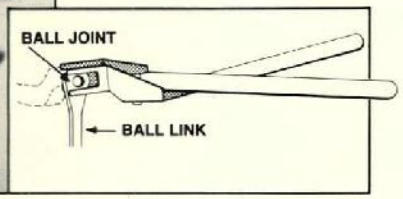


Z-STARTER #689

Hirobo's Z-starter is a great improvement over other conventional starters. It is a compact and self-contained unit that is lightweight and easy to manuever. Most important, it utilizes a one-way bearing on its output shaft which eliminates that vexing grabbing which occurs with all other starters. The Z -starter can be used for both belt and cone starts (on cars, planes, or helicopters). It's the hi-tech answer for more convenient and smoother starts.

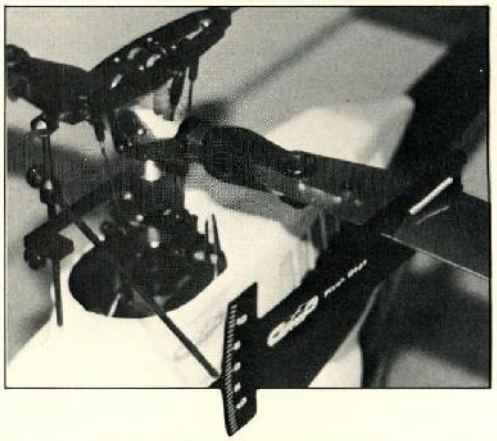
ACCESSORIES





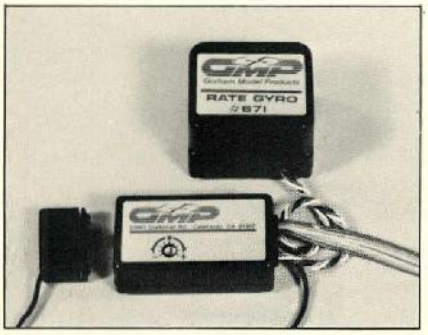
BALL LINK PLIERS #688

GMP's new ball-link plier is our latest invention to help the R/C enthusiast build and maintain his model helicopter with greater ease. Right-side-up, the new GMP pliers is a handy tool which will help you to quickly remove all of your ball-links. Flipped over, you can refit the ball-links just as easily. A great work and fingernail saving device.



ROTOR PITCH GAUGE #672

Designed and manufactured to be a fine precision measuring tool, the GMP Rotor Pitch Gauge allows precise measurement of collective roll and pitch adjustments. One super feature of this gauge is that it can be used without the necessity of leveling your helicopter. So "fine tune" your helicopter with a GMP Rotor Pitch Gauge and let your helicopter perform to its aerobatic limits !



GMP RATE GYRO #671K

The installation of a gyro on your helicopter is greatly recommended for added stability. GMP's Semi-Automatic Gyro (also known as GMP's Rate Gyro) is great for the beginner because it automatically trims down unwanted activity in your helicopter while permitting your radio commands to be obeyed without resistance. It is the least expensive and most popular gyro available in the U.S.A.. So for quick learning and improved flying, order your GMP gyro today!

OTHER ACCESSORY ITEMS

In addition to the accessories shown, GMP also stocks a range of other special items used on RC helicopters. Most, if not all, of these additional items are stocked by your local hobby store. He can also order any of the more specialized items in this catalog for you.

LOCKTITE	**#612**
DECAL SHEET	**#616**
STARTER ADAPTER(To adapt airplane starters)	**#621L**
HEAT SHRINK TUBING (Rotor blade covering)	**#676-9**
SUPER METRIC HARDWARE SET	**#686**
FLYBAR WEIGHTS(To increase stability)	**#670**
MUFFLERS - ALL TYPES	**#640-#660**

And **OTHER SPECIALIZED ITEMS SUCH AS FLOATS, SHOCK DAMPERS ETC.**

IS IT FOR ME?

Now that you have seen what we have to offer in the field of RC model helicopters we may have inspired you to find out more about this branch of model aeronautics. So we will pose some typical questions and try to provide some realistic answers for you.

DO I HAVE TO BE A MECHANICAL GENIUS?

No, of course not; all the machining and some of the assembly has been done for you - at least in GMP kits it has.

However, you should at least have an appreciation for the need to be reasonably precise and careful in your assembly and adjustments. If you do not have this "feel" for mechanisms and the care that they need, you may not be as successful as you would wish in your efforts. You may even find that trying to fly RC helicopters without this care and attention could result in possible hazard to you or those close to you when you fly.

Having stated the above, we'll assume that you have a positive attitude and enough knowledge and still want to proceed. So the next question could be:

WHAT DO I GET IF I BUY A HELICOPTER KIT?

Here's what you get in any GMP kit:

- A very complete and well illustrated building and flying instruction manual.
- A set of about ten plastic bags, each containing the parts needed to completely assemble one subassembly of your new helicopter. Detailed instructions to build each subassembly are contained in the building instruction manual.
- A set of main rotor blades already sanded and selected for equal weight. They will require the fitting of the blade mounts and covering with the plastic film provided.
- A set of tail rotor blades which will require little work.
- A plastic bag containing all the hardware, nuts, bolts, etc., to build your helicopter.
- A set of plywood parts normally used at the front end of the helicopter to mount the servos, gyro, etc.
- A set of aluminum main frames and an aluminum tail boom.
- Several sundry parts such as piano wire, plastic tubing, etc.

WHAT ELSE WILL I NEED?

Some basic tools - including small and medium screwdrivers, a small phillips head screwdriver, small needle nose pliers, a small tube of screw locking liquid - Loctite is a popular brand, a small container of "10 second" glue, some 100/150 grit sandpaper, a flat working surface, and the resolve to read the instructions at least once very carefully. Although our kits contain the necessary hex or allen wrenches a 3mm nut driver is very helpful. The best source for the above supplies is your local hobby store; but your local radio, automotive or hardware store would be good places to try also. The new GMP Tool kit contains Loctite and most of the small tools you will need.

You will need a radio control system, a suitable engine and muffler and an electric starter. Ideally again, seek the advice of your local hobby store personnel. If they are not too experienced in RC helicopters check with GMP's technical service and they will advise you. Please make sure that you buy a suitable, good quality radio and engine. Both these items are obtainable in special helicopter versions at reasonable prices and it will make the building and learning tasks so much easier for you.

HOW MUCH WILL IT COST?

Of course your initial cost will depend upon two factors; whether you are already an RC modeler and what class of RC helicopter you will decide upon. Here is at least a guide to give you some idea. RC helicopter kits cost from around $200 to $350 for the smaller models such as **CRICKET** and **SHUTTLE**, $350 to $500 for the larger more sophisticated models like the **COBRA** range and, hold your breath, between $1500 to nearly $2000 for the **Hirobo GIANT SCALE** models.

Suitable radio equipment will cost around $250 for a simple system and around $1000 for a really top-line computerized competition system. A suitable engine will cost between $75 to $200. A gyro is also a desirable item - add about $75. So the entry level cost for a modeler who already has radios and engines can be as low as $300. The new entrant into RC modeling would expect to pay around $600 and up if he has to buy everything.

Operating costs will include special model fuel at about 50 cents a flight and replacement parts if you have a very hard landing! GMP stocks **ALL** parts at costs ranging from $10 for a pair of **CRICKET** blades to $30 for a set of two **COBRA** main frames. GMP's replacement parts costs are the lowest in the industry and our stock is the most extensive and complete.

WHAT DO I GET FROM RC HELICOPTERING?

A great sense of personal achievement and pleasure which has to be experienced to be believed. Even to accomplish a steady hover for 10 seconds could make it all worth while. But how about the excitement of doing inverted flight a few inches above the ground? Or landing with a dead engine using autorotation? Then if you get really good - regional, national or even International competition. Maybe in 1989 or 1991 you could "go for the gold" in the World Championships just like the U.S.A's 18 year old Texan did so successfully in 1987. This hobby can be enjoyed almost anywhere (as long as there are no people or property too close) and there is no need to drive to the local flying field to have the use of a runway since your hovering practices can be done in a (unoccupied!) parking lot or other flat surface. Why not at least send for our new video - it will really show you how you may enjoy becoming part of **"our wonderful world of RC helicopters"**

RC Helicopter Flying .....

THE VIDEO

Learn to hover and watch the experts fly - all in one great video which was shot in California with a backdrop of the blue Pacific and California beaches.
Sit back, relax and watch this 23 minute cassette tape of GMP's RC helicopters flown by beginners and experts over land and sea. Professionally shot and narrated, it brings to life the flying maneuvers an RC modeler especially wants to see. It not only introduces you to the amazing aerobatics of GMP's fine line of helicopters, but it also **includes a section which guides the novice step by step in learning how to hover.** This is valuable information for the beginner who wants to learn quickly and safely but who does not have an experienced teacher available.

GMP's new video also includes incredible footage of the flying abilities (autorotations, inverted flights, loops and rolls, etc.) of Gorham Model Products entry level up to the competition class models and fliers - PLUS some flying shots of the 1/5 scale Hind D. Don't miss it!

Includes: Cricket, Cobra,
Shuttle , SST Jet Ranger
Competitor, King Cobra
Also available in PALS format

VHS Part# 630
BETA Part#631

GMP -- LEADER BY RESULTS

TOP PERFORMANCE.....Our secret to success is simple...**GMP** has always offered fliers competition-tested helicopters (and components) which stand up to top national and international competition; and win year after year.

1987 1st place	**WORLD RC HELICOPTER CHAMPIONSHIPS**
1987 1st place	**US NATIONAL CHAMPIONSHIPS...All classes**
1987 1st place	**CANADIAN NATIONALS .....Expert**
1987 1st place	**BRITISH NATIONALS .....FAI**
1986 1st place	**US National Championships .....Expert**
1985 1st place	**US National Championships.....FAI/Expert**
1984 1st place	**US National Championships.....Intermediate**
1984 1st place	**US National Championships.....Novice**
1983 1st place	**US National Championships.....Intermediate**
1983 1st place	**US National Championships .....Expert**
1982 1st place	**US National Championships.....Scale**
1981 1st place	**US National Championships.....Intermediate**

(Plus many more regional and local competitions!)

BEST PARTS SUPPORT IN THE INDUSTRY
Don't worry about parts replacement. GMP holds in-plant, an inventory of over $1.5 million worth of replacement parts and accessories for all our models, ensuring a plentiful supply. GMP's low-cost parts are distributed throughout GMP's nationwide network of over 1,000 hobby stores for your convenience - or you may order direct from our factory if a GMP dealer is not close-by.

GREAT TECHNICAL HELP
Need help? GMP dealers are qualified to answer your questions. GMP supports fliers with nationwide fun-flys and expert technical advice available daily from our plant in California. GMP field representatives are also located in many locations all over the U.S.A.

Join our growing group of satisfied customers...

(Unsolicited comments from GMP helicopter flyers)...

"You make great products, keep up the good work!!!
Mark A. Curtiss
Billings, MT
(Shuttle)

"Overall excellent quality in construction and finish"
Stan E. Zolina
Elmhurst, IL
(Shuttle)

"Very good kit, I love it!!"
Alex Valdes
Jackson Hts., NY
(Competitor)

"After flying my Shuttle for 2 years I decided to buy a new helicopter. My income is rather limited as I am a student so a quality machine was important. I chose a GMP Cobra because of its reputation as a quality helicopter and the fact that it is, at least in part, American made...Thanks and keep up the great work."

Britt Rothman
Gainesville, FL
(Shuttle&Cobra)

"Without question I find GMP products to be exceptional in design, quality and handling. Quite simply you make an excellent helicopter."

Bill Fike
Indianapolis, IN
(Competitor)

"I am a previous " " owner and flyer -- but so long to them. Now with owning a Cricket and a Competitor - I own the best flying machines on the market!"

Merlin Fisher
Fowler, OH
(Cricket&Competitor)

"After completing my Cobra kit I can see why this model is so popular."

Bob Chatigny
Weatherford, OK
(Cobra)

"I cannot begin to tell you how happy I am that I chose your Company to be my first venture into Heli World. You know when you have the right product and Company when you have a problem and that company stands by their product. With that kind of reputation I now own 2 Competitors and a Shuttle, in a very short period of time."

Michael Rotondi
Smithtown, NY
(Competitor&Shuttle)

"I was really impressed with the Stork SE kit as soon as I opened it...I've enjoyed assembling my GMP Stork SE and enjoy flying it even more! Everybody stops to see it fly, its real smooth, goes where I point it and stays in adjustment. I just fly, a real pleasure."

Jim Downey
Destrehan, LA
(Stork SE)

SPECIFICATIONS & PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

GORHAM MODEL PRODUCTS, INC. 23961 CRAFTSMAN RD, CALABASAS, CALIFORNIA, 91302, USA
TEL: 818-992-0195 TWX: 9104945933 FAX: 818-702-0117