

MECCANO

CRANE CONSTRUCTION SET

BOOK OF MODELS

Voorbeeldenboek
Livre des modèles
Libro dei modelli
Modellbuch
Modellbok
Libro de modelos



GB**YOUR ELECTRIC MOTOR**

This Meccano set includes a 1½-4½ volt DC motor (A), a forward and reverse motor control unit (B), a coil of connecting wire (C), and four plugs (D).

You will need to obtain two HP2 batteries or their equivalent.

1. Remove lid from control unit by squeezing the sides. **2.** Insert the batteries, the correct way round is shown on the base, and refit the lid. **3.** Cut the wire into two equal lengths and remove about 1 cm of insulation from every end. **4.** Slide the plug body downwards to expose pin, thread bared end of wire through the eye, about 5 mm, slide body upwards to trap the wire. **5.** Insert the plugs from each wire into the motor end plate and the other plugs into one side only of control unit. **6.** To start motor, switch 'on' at both control unit and motor. Moving either switch in the opposite direction will reverse the drive.

F**VOTRE MOTEUR ELECTRIQUE**

Ce jeu de Mécano comprend un Moteur DC de 1,5-4,5 volts (A), un groupe de commande avant et arrière (B), une bobine de fil de connexion (C) et quatre fiches (D).

Vous aurez besoin de deux piles HP2 ou équivalentes.

1. Enlever le couvercle du groupe de commande en appuyant sur les côtés. **2.** Placer les piles, la position correcte est illustrée sur le fond, et remplacer le couvercle. **3.** Couper le fil en deux longueurs égales et enlever environ 1 cm d'isolant à chaque bout. **4.** Glisser le corps

de la fiche vers le bas pour faire sortir la pointe, passer le fil nu dans le trou, environ 5 mm, retirer le corps vers le haut pour coincer le fil. **5.** Introduire les fiches provenant de chaque fil dans la plaque du moteur et les autres fiches sur un seul côté du groupe de commande. **6.** Pour mettre le moteur en marche, placer le switch sur 'on' au groupe de commande ainsi que sur le moteur. Le déplacement du switch dans la direction opposée renversera la transmission.

N**DIN ELEKTRISKE MOTOR**

Deette Meccano-settet inneholder en 1½-4½ volt likestrømsmotor (A), en kontrollenhet (B) som regulerer motorens rotasjonsretning, en spole med ledning (C) og fire plugger (D).

Du trenger to HP2 batterier eller tilsvarende for å drive motoren.

1. Ta lokket av kontrollenheten ved å trykke sidene sammen. **2.** Legg batteriene på plass, pass på at de ligger riktig vei, se skissen på bunnen av enheten, legg lokket tilbake. **3.** Del ledningen opp i to like store lengder og skrap ca. 1 cm av isolasjonen av hver ende. **4.** Skyv pluggen ned slik at selve pinnen blir blottlagt, stikk den uisolerte enden av ledningen gjennom øyet, ca. 5 mm, skyv selve pluggen opp slik at ledningen holdes fast. **5.** Før pluggene fra hver ledning inn i motorens endeplate og de andre pluggene bare inn i den ene siden av kontrollenheten. **6.** For å starte motoren slår du både kontrollenheten og motoren på. Om du nå vrir på en av bryterne vil motoren dreie i motsatt retning.

D**IHR ELEKTROMOTOR**

Dieser Meccanosatz schliesst einen 1½-4½ Volt Gleichstrommotor (A), eine Vorwärts- und Rückwärtskontrolleinheit (B), eine Spule Verbindungsdraht (C), und vier Stecker (D), ein.

Sie müssen zwei HP2 Batterien oder ihr Äquivalent beschaffen.

1. Entfernen Sie den Deckel der Kontrolleinheit durch Drücken der Seiten. **2.** Setzen Sie die Batterien ein; die genaue Lage ist auf der Basis angegeben, und schliessen Sie den Deckel wieder. **3.** Schneiden Sie den Draht in zwei gleichmässige Längen und entfernen Sie ungefähr 1 cm der Isolierung von jedem Ende. **4.** Lassen Sie den Steckerkörper heruntergleiten, um die Nadel frei werden zu lassen, fädeln Sie das blosse Drahtende durch das Ohr, ungefähr 5 mm, schieben Sie den Körper nach oben, um den Draht festzuhalten. **5.** Setzen Sie die Stecker jedes Drahtes in die Motorkopfplatte ein und die anderen Stecker in nur eine Seite der Kontrolleinheit. **6.** Um den Motor zu starten, stellen Sie auf "an", sowohl bei der Kontrolleinheit als auch beim Motor. Wenn einer der beiden Schalter in entgegengesetzter Richtung bewegt wird, wird die Antriebsrichtung umgekehrt.

E**MOTOR ELECTRICO**

Este equipo de Meccano incluye un Motor DC de 1½-4½ voltios (A), una unidad de control hacia adelante y hacia atrás (B), un rollo de alambre de conexión (C), y cuatro enchufes (D). Necesitas dos HP2 Pilas o su equivalente.

1. Quite la tapa de control de unidad, presionando los lados. **2.** Coloque las pilas, la forma correcta la encuentras en la base, y vuelva a colocar la tapa. **3.** Corta el alambre en dos partes iguales y quite cerca de 1 cm del forro del alambre de cada extremo. **4.** Tira hacia atrás el cuerpo del enchufe dejando descubierto la parte interior. Pasa el alambre pelado por el ojo, más o menos 5 mm. Tira hacia adelante el cuerpo del enchufe para atrapar el alambre. **5.** Inserta los enchufes de cada alambre al final de la plataforma del motor y los otros enchufes en solamente un lado de la unidad de control. **6.** Para hacer funcionar el motor, enciende ambas unidades, la de control y la de motor. Moviendo cualquiera de los encendedores en dirección contraria cambiará la dirección de conducir.

I**IL TUO MOTORE ELETTRICO**

Questa collezione del Meccano include un motore con voltaggio DC 1½-4½ (A), un motore reparto controllo avanti e indietro (B), una bobina di filo d'induzione (C), e quattro spine (D).

È necessario che tu ti provveda di due pile HP2, o equivalenti ad esse.

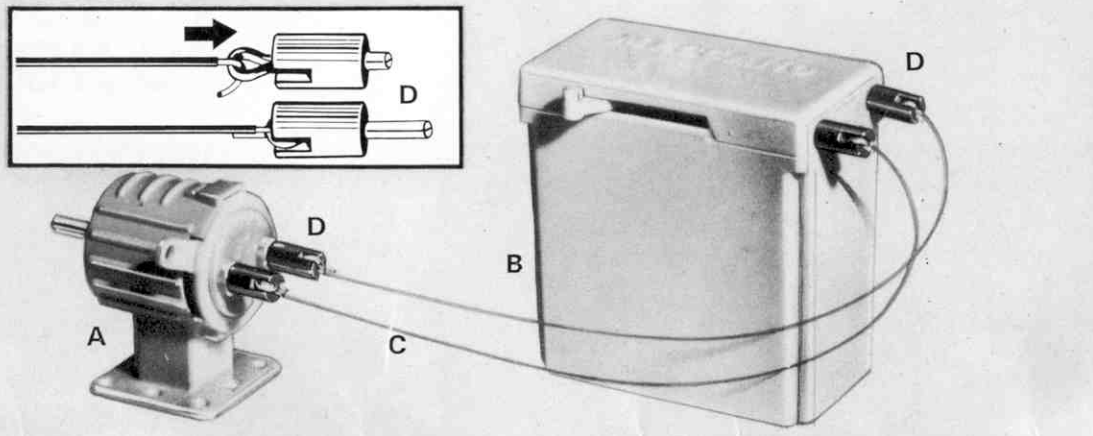
1. Rimuovi il coperchio dal reparto controllo premendo i lati. **2.** Inserisci le pile, la maniera corretta è mostrata sulla base, e rimetti il coperchio. **3.** Taglia il filo elettrico in due lunghezze eguali e rimuovi circa cm 1 d'isolante da ogni estremità. **4.** Tira in giù la cassetta della spina per esporre lo spillo, infila nell'occhio l'estremità scoperta del filo di circa 5 mm, tira in su la cassetta per tenere in trappola il filo. **5.** Inserisci le spine di ogni filo nell'estremità della piastra del motore, e la altre spine in un lato solo del reparto controllo. **6.** Per accendere il motore, accendi tutti e due il reparto controllo e il motore. Muovendo sia l'una che l'altra chiavetta nella direzione opposta si invertirà l'energia.

NL**JE MOTOR**

Deze Meccano set bevat een 1½-4½ volt gelijkstroom motor (A), een motor-regelapparaat vooruit/achteruit (B), een spoel aansluitingsdraad (C) en vier stekkertjes (D).

Je moet twee HP2 of soortgelijke batterijtjes erbij kopen.

1. Verwijder het dekseltje van het regelapparaat door de zijkanen in te drukken. **2.** Zet de batterijtjes in de juiste stand zoals op het voetstuk is aangegeven erin en zet het dekseltje weer terug. **3.** Knip het draad op twee stukken van gelijke lengte en verwijder ca. 1 cm isolatie van elk der einden. **4.** Schuif de huls van de stecker omlaag zodat de pen wordt blootgesteld, steek het blote draadeind ongeveer 5 mm door de oog, schuif de huls omhoog zodat de draad wordt vastgeklemd. **5.** Steek de stekkers aan beide draadstukken in de achterplaat van de motor en de stekkers aan de andere einden in slechts één zijde van het regelapparaat. **6.** Om de motor aan te zetten, moet zowel het regelapparaat als de motor worden ingeschakeld. Door een der beide schakelaars om te schakelen, loopt de motor in de andere richting.



GB

How to use this book

In this book the building instructions are mostly in the form of photographs showing step by step assembly of the models. Each model is assembled in sections and, at the start of each section, there is a photograph of the particular components used in that section. These photographs will help you identify the parts needed. You should first select the components from your set to avoid having to search for them during assembly. The sequence of assembly, i.e. progressing from one section to the next in correct order, should be followed as set out in the illustrations.

In most cases, the parts used in the models can be identified simply by looking at the illustrations, but where the identity of a part may not be clear, its part number is marked on the illustrations.

You will be able to identify these, and all the parts in the models, by studying the individual pictures of parts printed in this booklet.

Basic constructions

Some standard arrangements of parts are used repeatedly in Meccano model-building and these are called 'Basic Constructions' (BC's), and 'Basic Fixings' (BF's). They are illustrated in the following pages, and you will see that each is identified by a Code Mark, e.g. BC1, BC2, BF1, etc. When one of these Code Marks appears on the building illustrations, it indicates the Meccano Basic Construction to use.

F

Comment utiliser ce livret

Dans ce livret, les instructions d'assemblage sont pour la plupart données sous la forme de photographies pour la fabrication graduelle de modèles. Chaque modèle est assemblé en sections et, au début de chaque section, se trouve une photographie des pièces qui y sont utilisées. Ces photographies vous permettront d'identifier les pièces nécessaires. Vous devriez d'abord sélectionner pour ne pas avoir à les chercher pendant l'assemblage. La séquence de l'assemblage, c.à.d. le passage d'une section à une autre dans le bon ordre, devrait être suivie d'après les illustrations.

Dans la plupart des cas, les pièces devant être utilisées pour les modèles peuvent être identifiées simplement en se référant aux illustrations mais lorsque l'identification d'une pièce n'est pas claire, son numéro est donné sur l'illustration.

Vous pourrez les identifier et toutes les parties des modèles, en examinant les illustrations séparées des pièces se trouvant dans ce livret.

Constructions de base

Des sélections standards de pièces sont fréquemment utilisées dans la construction de modèles de Mécano et elles sont

appelées 'Constructions de Base' (BC's), et 'Fixations de Base' (BF's). Elles sont illustrées sur les pages qui suivent et vous verrez que chacune d'elle est identifiée par un numéro de code, c.à.d. BC1, BC2, BF1, etc. Lorsqu'un numéro de code est donné sur l'illustration d'assemblage, il indique la Construction de Base Mécano à utiliser.

N

Slik bruker du denne vesle boken

De fleste byggeanvisningene er i form av fotografier som viser deg hvorledes du bygger modellene, trinn for trinn. Hver modell settes sammen i seksjoner og ved begynnelsen av hver seksjon finnes det et fotografi av de delene som danner den seksjonen. Disse fotografiene vil hjelpe deg til å identifisere de deler du trenger. Ta delene du trenger opp av esken før du begynner å bygge, da går byggingen lettere unna. Se godt på illustrasjonene og følg byggerekkefølgen, dvs. den gradvise utvikling fra en seksjon til den neste i riktig rekkefølge.

I de fleste tilfelle kan de deler du bruker i modellene lett gjenkjennes bar ved å se på illustrasjonene, men hvor identiteten av en del ikke er helt klar står delnummeret merket av på illustrasjonene.

Du blir i stand til å identifisere disse og alle delene i modellene ved å se på de individuelle bildene av delene som står i denne vesle boken.

Grunnmodeller

En del standardarrangement av deler går igjen i modellbygging med Meccano, og disse kalles grunnmodeller (BC) og grunntyper (BF). Disse står avbildet på de følgende sidene og du vil se at hver av disse har et kodemerke, f.eks. BC1, BC2, BF1 osv. Når ett av disse kodemerkene står i byggeanvisningene viser det til den Meccano grunnmodellen du skal bruke.

D

Wie dieses Handbuch zu benutzen ist

In diesem Büchlein werden die Bauinstruktionen meistens als Fotos, welche die Zusammenstellung der Modelle Schritt für Schritt zeigen, gegeben. Jedes Modell wird aus Teilabschnitten zusammengesetzt und am Anfang jedes Teilabschnitts ist ein Foto von den besonderen Bestandteilen, die in diesem Teil gebraucht werden. Diese Fotos helfen Ihnen, die benötigten Stücke zu identifizieren. Sie sollten am Anfang zuerst die Bestandteile Ihres Satzes heraussuchen, um eine Suche während der Zusammensetzung auszuschalten. Die Folge der Zusammensetzung, z.B. die Aufeinanderfolge von einem Teilabschnitt zum Nächsten in genauer Reihenfolge, sollte nach den gegebenen Illustrationen ausgeführt werden. In den meisten Fällen können die Teile, die in den Modellen gebraucht werden, einfach durch Besichtigung der Illustrationen identifiziert werden, aber sollte die Identität eines Teiles nicht ganz klar sein, ist die Kennnummer des Teiles auf der Illustration angegeben.

Sie können diese und alle Teile der Modelle identifizieren, wenn Sie die einzelnen Zeichnungen der Teile, die in diesem Büchlein gedruckt sind, genau betrachten.

Grundkonstruktionen

Einige Standardzusammenstellungen von Teilen werden wiederholt im Meccanomodellbau benutzt und diese werden "Basic Constructions" (BC's) (Grundkonstruktionen), und "Basic Fixings" (BF's) (Grundzubehör), genannt. Sie sind auf den folgenden Seiten illustriert und Sie werden sehen, daß jede durch eine Codebezeichnung gekennzeichnet ist, z.B. BC1, BC2, BF1 u.s.w. Wenn eine dieser Codebezeichnungen bei den Bauillustrationen auftritt, weist sie auf die zu benutzende "Basic Construction" (Grundkonstruktion) hin.

E

Como usar este folleto

En este folleto las instrucciones están principalmente en figuras mostrando paso a paso el ensamblamiento de los modelos. Cada modelo está ensamblado en secciones, y al comienzo de cada sección hay figuras de las piezas que se necesitan en esa sección.

Estas figuras te ayudarán a identificar las partes que necesitas. Primero, deberás seleccionar las partes de tu equipo que necesitas, para evitar tener que buscarlas cuando estás ensamblándolas. La secuencia de ensamblamiento, que es: avanzar de una sección a otra en el orden correcto, debe seguirse como se indica en las ilustraciones.

En la mayoría de los casos, las partes que se necesitan en los modelos pueden ser identificadas mirando las ilustraciones, pero si alguna parte no está muy clara el número correspondiente a dicha pieza esta marcada en las ilustraciones.

Será posible que identifiques las piezas, y todas las partes de los modelos estudiando individualmente las figuras de las partes impresas en este folleto.

Construcciones basicas

Algunas uniones de piezas son estandard y se usan repetidamente en el Meccano. Estas se llaman 'Construcciones Básicas' (BC's), y 'Uniones Básicas' (BF's). En las ilustraciones de las siguientes páginas podrás ver que cada una está identificada por claves, por ejemplo BC1, BC2, BF1, etc. Cuando una de estas claves aparece en la ilustración de lo que vas a formar te está indicando la Construcción Básica del Meccano que debes usar.

I

Come usare quest'opuscolo

In quest'opuscolo le illustrazioni di costruzione sono per lo più nella forma di fotografie che mostrano, passo passo, l'assemblaggio dei modelli. Ogni modello è montato a sezione e, all'inizio di ogni sezione, c'è una fotografia di precisi

componenti usati in quella sezione. Queste fotografie ti aiuteranno a riconoscere le parti che occorrono. Tu dovresti prima selezionare i pezzi della tua collezione per evitare di cercarli quando li assembli. La successione dell'assemblaggio, cioè, proseguendo da una sezione all'altra nell'ordine corretto, dovrebbe essere imitata come mostrata sulle illustrazioni.

In molti casi, le parti usate nei modelli si possono riconoscere guardando semplicemente le illustrazioni, ma dove l'identità di una parte potrebbe essere non chiara, il numero della sua parte è segnato sulle illustrazioni. Potrai distinguere queste e tutte le parti dei modelli, studiando i quadri singoli delle parti stampate in quest'opuscolo.

Costruzioni base

Degli assestamenti normali delle parti si usano ripetutamente nella costruzione — modello del Meccano, e questi sono chiamati "Costruzioni Base" (BC's), e "Fissaggio Base" (BF's). Essi sono illustrati nelle seguenti pagine, e tu vedrai che ognuno è identificato dai segni del codice, per esempio: BC1, BC2, BF1, ecc. Quando uno di questi segni del codice è mostrato sulle illustrazioni di costruzione, indica di usare la Costruzione Base del Meccano.

NL

Hoe dit boekje te gebruiken

In dit boekje zijn de bouwaanwijzingen meestal in de vorm van foto's aangegeven, die stap voor stap de montage van de modellen illustreren. Elk model wordt uit secties samengesteld, aan het begin van elke sectie is er een foto van de bepaalde onderdelen die voor die sectie nodig zijn. Met behulp van deze foto's kunnen de benodigde onderdelen worden herkend. Je moet eerst de onderdelen uit je set uitkiezen, om te voorkomen dat ze gedurende montage moeten worden uitgezocht. De montage volgorde, d.w.z. de vooruitgang van een sectie naar de volgende in de juiste volgorde, moet volgens de afbeeldingen geschieden.

De onderdelen die voor de modellen moeten worden gebruikt kunnen meestal worden herkend door eenvoudig de afbeeldingen te bekijken, maar waar het type onderdeel niet duidelijk is, is het onderdeelnummer op de afbeelding aangegeven.

Je kan deze herkennen en ook alle andere onderdelen in de modellen door de afzonderlijke afbeeldingen van onderdelen te bestuderen die in dit boekje zijn opgenomen.

Fundamentele aanwijzingen

In Meccano modelbouw worden herhaaldelijke een aantal standaard onderdeelsamenstellingen toegepast die "basisconstructies" (BC's) en "basisbevestigingen" (BF's) worden genoemd. Ze zijn op de volgende pagina's afgebeeld en je zal merken dat elk dezer met een codemerk is gemerkt b.v. BC1, BC2, BF1 enz. Wanneer een dezer codemerk in de bouwafbeeldingen voorkomt, geeft het aan welke Meccano basisconstructie moet worden gebruikt.

Basic Constructions

GB




BC1 This joins two strips together so that they can move. It's one kind of locknut. You push a bolt through the strips, thread one nut onto the bolt (but don't tighten it so much that the strips can't move), thread on the second nut and tighten it against the first, using the two spanners provided.




BC2 This is another kind of locknut. Push the bolt through one of the strips and thread on the first nut. Then push the second strip over the end of the bolt and thread on the second nut. Tighten the nuts against both sides of the second strip so that the first strip moves freely on the bolt.

BC4 This is a way of joining two strips together.

BC15 This is a collar used to form a bearing or a support for an axle. The bolt must not obstruct the centre hole carrying the axle and the nut should be locked against the supporting plate or strip.

Nuts and bolts can be used in different ways for different jobs. These 'bolt fixtures' have been numbered BF1, BF2 etc., so that you can recognise them in the photographs. When longer bolts are required you will see that their sizes have been indicated.

You will also see these symbols   and .

The first, , indicates that the parts concerned will move freely. The second, , shows that these parts will also move, but that there will be some resistance to totally free movement, allowing the parts to stay in any position you want. The last symbol, , indicates the points where the cord should be tied.

Finally, you will see a number of 'W's' marked on the photographs. These show where washers are required. W x 2 means that you should use two washers, W x 3 means three washers, and so on.

F




BC1 Ceci permet de joindre deux pièces de façon qu'elles restent mobiles. C'est une sorte de contre-écrou. Glissez un boulon dans les pièces, vissez un écrou au boulon (mais sans serrer pour ne pas bloquer les pièces), visser le deuxième boulon et bloquez-le contre le premier en utilisant les deux clés fournies.




BC2 C'est un autre type de contre-écrou. Glissez le boulon dans l'une des pièces et vissez sur le premier écrou. Puis glissez la deuxième pièce sur l'extrémité du boulon et vissez le deuxième écrou. Serrez les écrous des deux côtés de la seconde pièce de façon que la première puisse tourner autour du boulon.

BC4 C'est une façon d'assembler deux pièces.

BC15 Ceci est un collier qui sert de palier ou de support à un arbre. Le boulon ne doit bloquer le trou central qui supporte l'arbre, et l'écrou doit être serré contre la plaque ou pièce de support.

Il y a plusieurs façons de se servir des boulons et écrous selon le résultat que l'on veut obtenir. Ces divers "montages de boulons" ont été numérotés BF1, BF2... de façon que vous puissiez les identifier facilement sur les photographies. Lorsque vous avez besoin de boulons plus longs, il faut vous reporter à leur numéro de pièce qui indique celui qui convient.

Vous remarquerez également les symboles ,  et .

Le premier, , indique que les pièces en question doivent rester mobiles. Le deuxième, , signifie que ces pièces doivent aussi rester mobiles, mais rencontrer quand-même une certaine résistance qui les empêchent de bouger librement, de façon qu'elles restent dans la position où vous voulez les mettre. Le dernier symbole, , indique les points où il faut attacher le cordon.

Enfin, vous remarquerez également un certain nombre de W sur les photographies. Ils indiquent les endroits où il faudra placer une rondelle. W x 2 signifie que vous devez mettre deux rondelles, W x 3 trois rondelles etc...

N





BC1 Denne forbinder to deler slik at de kan bevege seg. Det er en slags låsemutter. Du skyver en skrue gjennom delene, trer den ene mutteren inn på skruen (men trekk ikke så meget til at delene ikke kan bevege seg fritt), tre så den andre mutteren på og trekk denne til mot den første ved hjelp av de to skrunøkene.

BC2 Dette er en annen slags låsemutter. Skyv skruen gjennom en av delene og sett den første mutteren på skruen. Skyv så del nr. to inn over enden av skruen og sett den andre mutteren på. Trekk så mutrene til mot begge sider av denne siste delen slik at den første delen beveger seg fritt om skruen.

BC4 Dette er en måte å skjote to deler sammen på.

BC15 Dette er en krave som brukes til å danne et lager eller en støtte for en aksel. Skruen må ikke på noen måte stoppe til senterhullet som akselen løper gjennom, og mutteren må trekkes godt til mot støtteplaten eller delen.

Muttre og skruer kan brukes på forskjellige måter etter behov. Disse "skruefestene" er blitt nummerert BF1, BF2 osv., slik at du kan kjenne dem igjen på fotografier. Hvor det er påkrevd med lange skruer vil du se at delnumrene angir de skruene du skal bruke.

Du vil også se disse tegnene ,  og . Det første, , betyr at den delen det dreier seg om vil bevege seg fritt. Det andre tegnet, , viser at disse delene vil også bevege seg, men at der vil være en viss motstand slik at delene kan holde seg i en hvilken som helst stilling du ønsker. Det siste tegnet, , angir de punktene hvor tråden skal knyttes.

Endelig vil du se en del "W" merket av på fotografiene. Disse viser hvor du trenger skiver (pakninger). W x 2 betyr at du må bruke to slike skiver, W x 3 betyr tre skiver osv.

D

BC1 Hierbei werden zwei Streifen zusammengefügt, so daß sie sich bewegen können, also eine Art Knebelgriff. Du steckst eine Schraube durch die Streifen und drehst eine Mutter auf die Schraube (aber nicht so stark anziehen, daß sich die Streifen nicht bewegen können). Dann drehst Du eine zweite Mutter und ziehst sie gegen die erste an, wozu Du die beiden beigefügten Schraubenschlüssel verwendest.

BC2 Hierbei handelt es sich um einen anderen Knebelgriff. Du steckst die Schraube durch einen der Streifen und drehst die erste Mutter auf. Dann setzt Du den zweiten Streifen auf das Ende der Schraube und drehst die zweite Mutter auf. Die Muttern werden an beiden Seiten des zweiten Streifens festgezogen, so daß sich der erste Streifen frei um die Schraube bewegen kann.

BC4 Hierbei handelt es sich um eine Verbindung von zwei Streifen.

BC15 Hierbei handelt es sich um eine Manschette, die ein Lager oder eine Auflage für eine Achse bildet. Die Schraube darf das Mittelloch, das die Achse aufnimmt, nicht behindern, und die Mutter ist fest am Halteblech oder Streifen anzuziehen.

Schrauben und Muttern können für verschiedene Arbeiten verschieden eingesetzt werden. Diese "Verschraubungen" wurden mit BF1, BF2, usw. bezeichnet, so daß Du sie auf den Fotos erkennen kannst. Wenn längere Schrauben erforderlich sind, werden die Teilenummern angegeben, so daß Du genau weißt, welches zu benutzen ist.

Du findest ferner die Symbole ,  und . Das erste Symbol, , gibt an, daß sich die entsprechenden Teile frei bewegen. Das zweite, , gibt an, daß sich diese Teile ebenfalls bewegen, daß jedoch ein gewisser Widerstand bei der völlig freien Bewegung besteht, so daß die Teile in der Position bleiben, die Du wünschst. Das letzte Symbol, , gibt die Stellen an, wo die Kordel anzuknüpfen ist.

Schließlich siehst Du auf den Fotos mehrere "W". Diese bedeuten, daß Unterlegscheiben erforderlich sind. W x 2 bedeutet, daß Du zwei Unterlegscheiben benutzen mußt, W x 3 bedeutet 3 Unterlegscheiben usw.

E

BC1 Esta pieza es una especie de contratuerca que permite unir dos tiras de manera que puedan moverse. A través de las tiras se introduce un tornillo y se le enrosca una tuerca (pero sin apretarla hasta tal punto que no puedan moverse las tiras); enrosque la segunda tuerca y apriétela contra la primera, empleando las dos llaves incluidas en el suministro.




BC2 Esta es otra clase de contratuerca. Introduzca el tornillo por una de las tiras y enrósquele la primera tuerca. A continuación, introduzca la segunda tira sobre el extremo del tornillo y enrosque la segunda tuerca. Apriete las tuercas contra los dos lados de la segunda tira de modo que la primera pueda moverse libremente sobre el tornillo.

BC4 Esta pieza se emplea para unir dos tiras.

BC15 Este es un collarín que se emplea para formar un cojinete o soporte para un eje. El tornillo no debe obstruir el agujero central en el que va introducido el eje, y la tuerca se debe apretar sólidamente contra la tira o placa de apoyo.

Las tuercas y tornillos se pueden utilizar en distintos modos para distintas operaciones. A estos 'dispositivos de sujeción' se les han dado los números BF1, BF2, etc., para que puedan identificarse en las fotografías. Si se necesitan tornillos más largos, basta consultar los números de pieza para determinar el tipo correcto a emplear.

También se verán los símbolos   y .

El primero,  indica que las piezas a que se refiere podrán moverse libremente. El segundo,  indica que estas piezas también se moverán, pero con cierta restricción del movimiento libre, lo que permite que las piezas permanezcan en el lugar que se desee. El último símbolo,  indica los puntos en que debe atarse la cuerda.

Por último, observará que en varias partes de las fotografías aparece la letra 'W'. Esta indica los puntos en que se necesitan arandelas. W x 2 significa que se deben emplear dos arandelas, W x 3 significa tres arandelas, etc.

NL




BC1 Dit verbindt twee strips aan elkaar zodat ze kunnen bewegen. Het is een soort borgmoer. Je duwt een bout door de strips, zet een moer op de bout (maar niet te vast aandraaien zodat de strips niet kunnen bewegen), zet een tweede moer op en draai deze vast tegen de eerste aan, gebruik de twee verstrekte moersleutels.

BC2 Dit is een ander soort borgmoer. Duw de bout door een van de strips en zet de eerste moer op. Duw dan de tweede strip over het einde van de bout en zet de tweede moer op. De moeren aan beide kanten van de tweede strip aandraaien zodat de eerste strip zich vrij op de bout kan bewegen.

BC4 Dit is een manier om twee strips aan elkaar te verbinden.

BC15 Dit is een kraag voor het vormen van een lager of ondersteuning voor een as. De bout mag niet het middengat versperren waar de as doorheen loopt en de moer moet tegen de steunplaat of strip vastgedraaid worden.

Moeren en bouten kunnen op diverse manieren voor verschillende werkjes gebruikt worden. Deze 'boutonderdelen' zijn genummerd BF1, BF2, enz., zodat je ze in de foto's kunt herkennen. Als er langere bouten nodig zijn, kun je hun onderdeelnummers zien die aangeven welke je moet gebruiken.

Je zult ook de symbolen   en  zien.

De eerste  duidt aan dat de betreffende delen vrij bewegen. De tweede  toont aan dat deze delen wel bewegen, maar dat er enige weerstand is tegen een volkomen vrije beweging, waardoor de delen in iedere willekeurige stand blijven die je wenst. Het laatste symbool  geeft aan de diverse punten waar het koord geknoopt moet worden.

En tenslotte zie je ook nog een aantal 'W' en op de foto's. Deze duiden aan waar onderlegplaatjes nodig zijn. W x 2 betekent dat je twee onderlegplaatjes moet gebruiken, W x 3 betekent drie onderlegplaatjes, enz.

I







BC1 Con questo giunto si uniscono due strisce in modo da consentirne il movimento. È un tipo di giunto a controdado. Si inserisce un bullone attraverso le strisce, si avvitava un dado sul bullone (ma senza stringerlo eccessivamente, per non impedire il movimento delle strisce), si avvitava il secondo dado e lo si serra contro il primo, usando le due chiavi fornite con la scatola.

BC2 Anche questo è un giunto a controdado. Inserire il bullone attraverso una delle strisce, e avvitare il primo dado. Inserire quindi la seconda striscia sull'estremità del bullone e avvitare il secondo dado. Serrare i dadi contro entrambi i lati della seconda striscia, in maniera che la prima striscia si muova liberamente sul bullone.

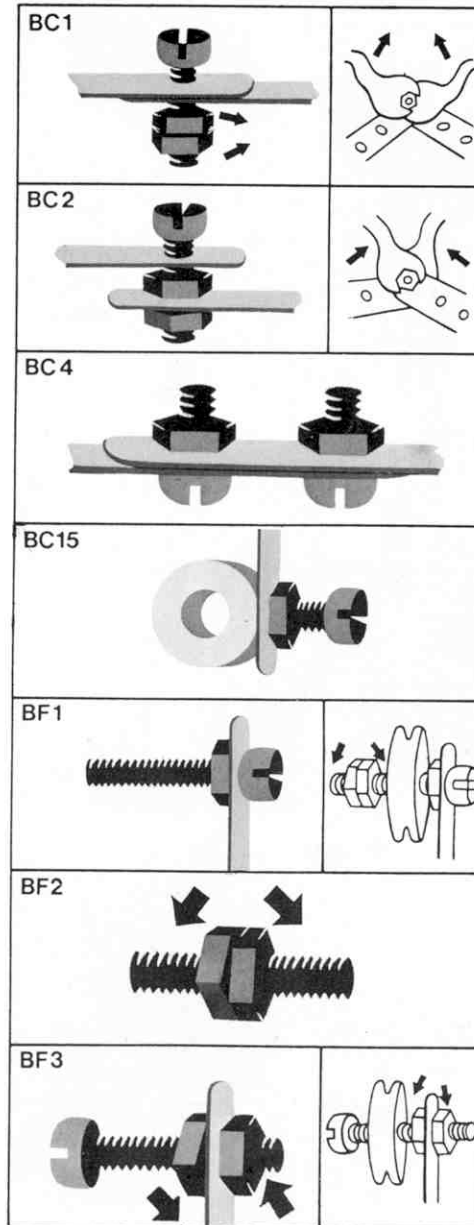
BC4 Questo è un metodo per unire insieme due strisce.

BC15 Questo è un collarino usato per formare un cuscinetto o supporto per un asse. Il bullone non dovrà ostruire il foro centrale di supporto dell'asse, ed il dado dovrà essere bloccato contro la piastra o striscia di supporto.

I dadi ed i bulloni possono venire usati in varie maniere per diverse funzioni. Questi 'fissaggi a bullone' sono stati numerati BF1, BF2, ecc., in maniera da poterli identificare facilmente nelle fotografie. Quando occorre usare dei bulloni più lunghi, potrete individuare il loro numero di pezzo per usarli il bullone addatto.

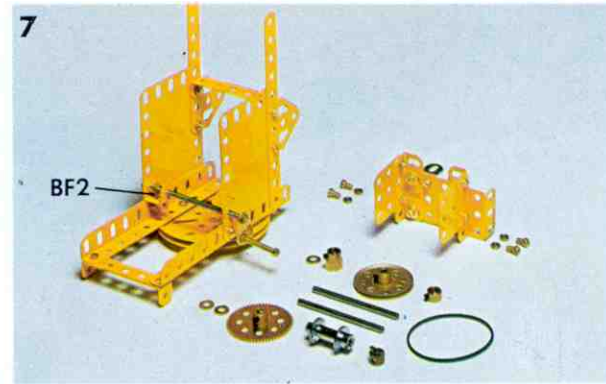
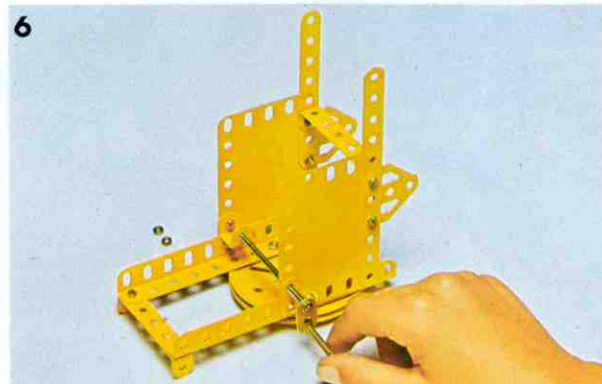
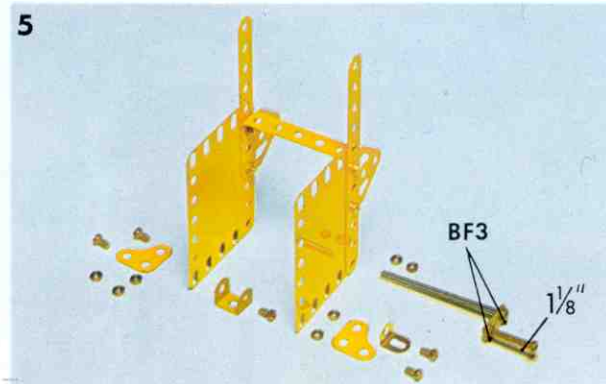
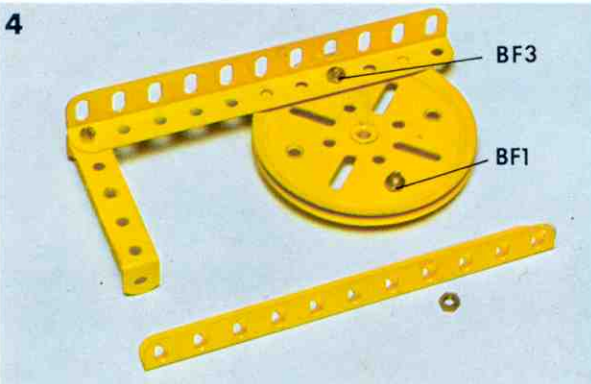
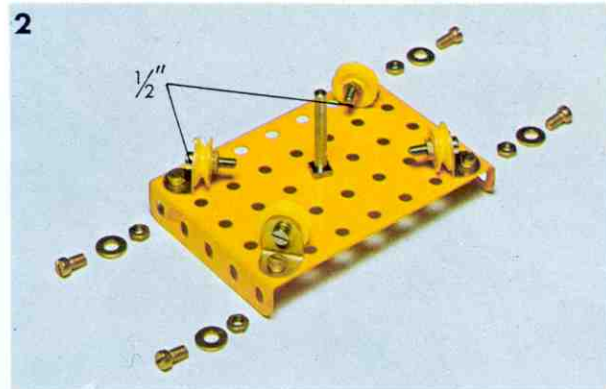
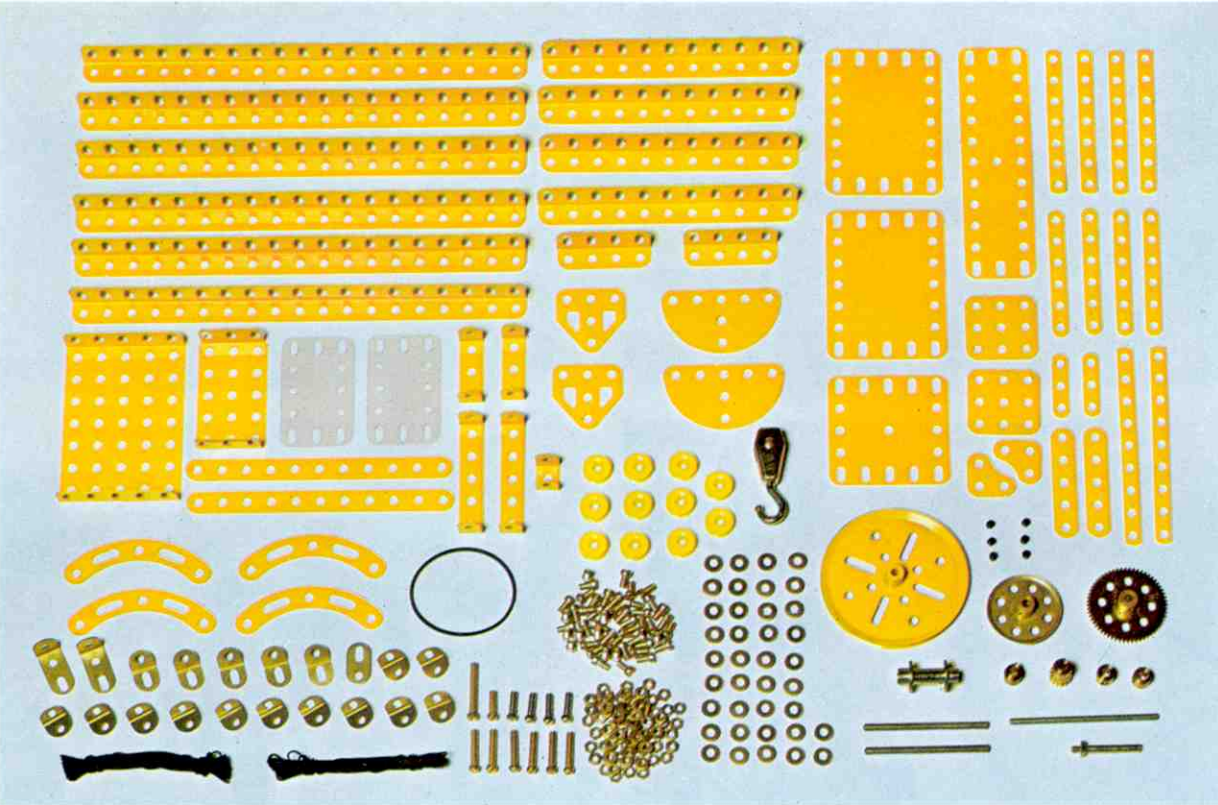
Noterete anche questi simboli:   e . Il primo,  significa che le parti indicate si muovono liberamente. Il secondo,  indica che anche queste parti si muovono, ma che vi sarà una certa resistenza contro il movimento completamente libero, consentendo in tal modo che le parti stesse rimangano in una qualsiasi posizione desiderata. L'ultimo simbolo,  indica i punti in cui si dovrà legare il cordoncino.

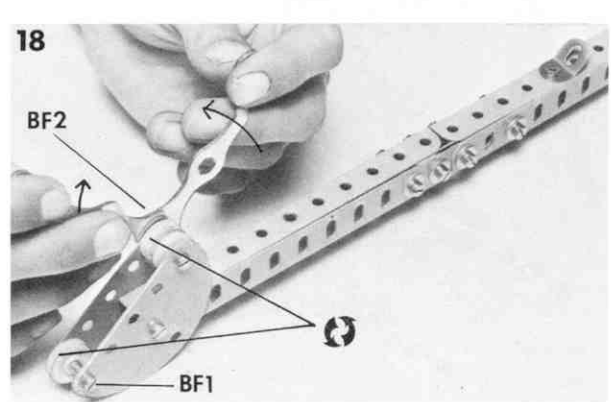
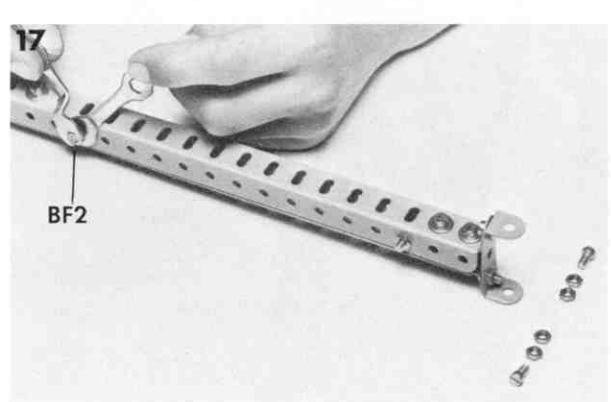
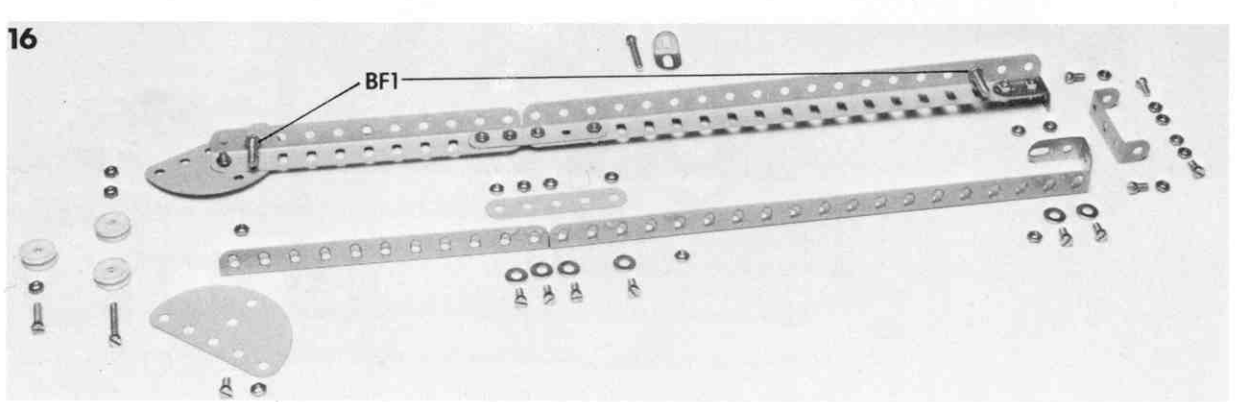
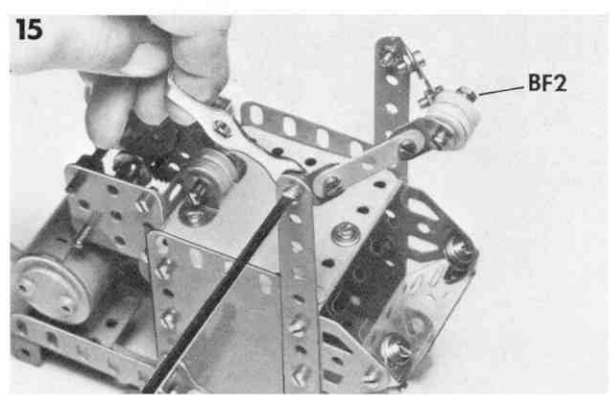
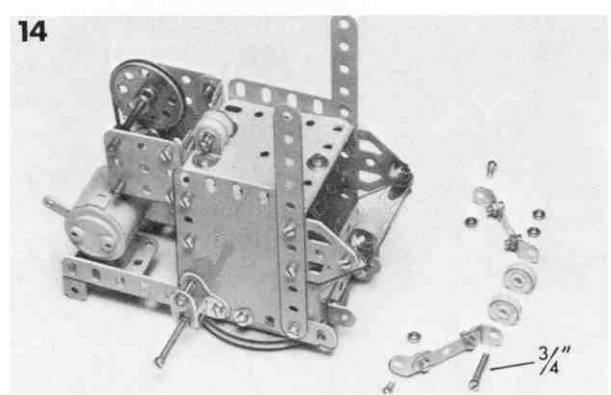
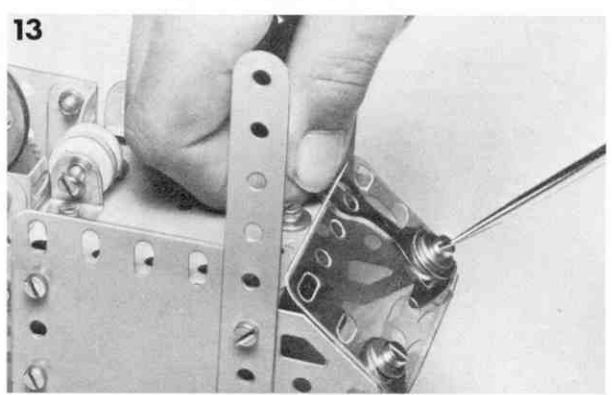
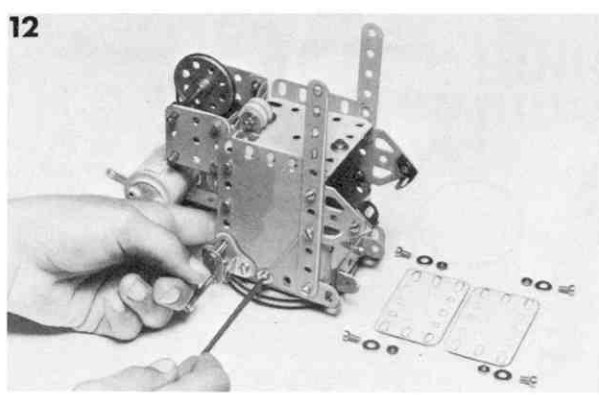
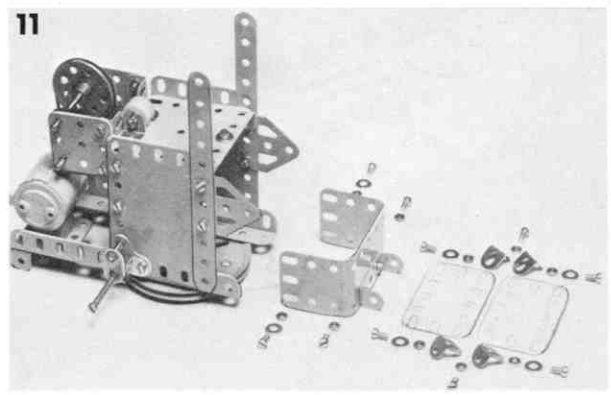
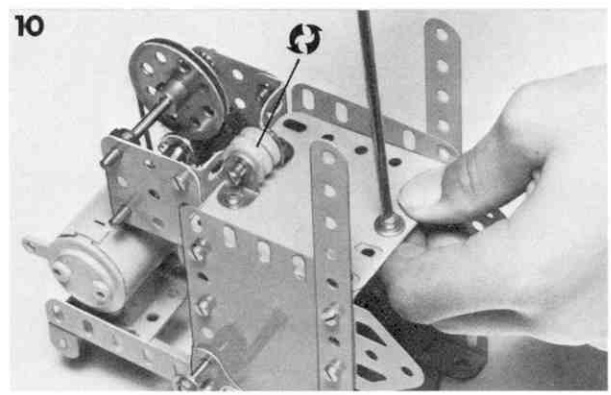
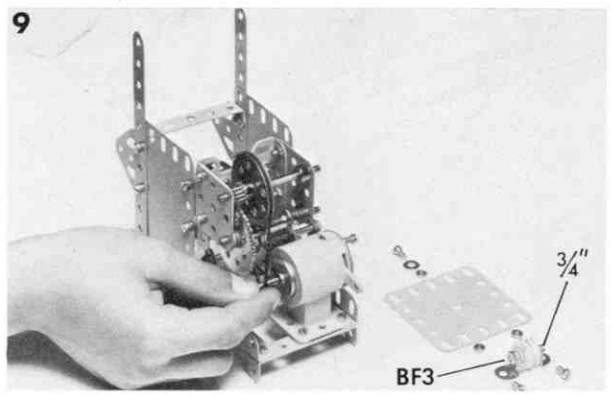
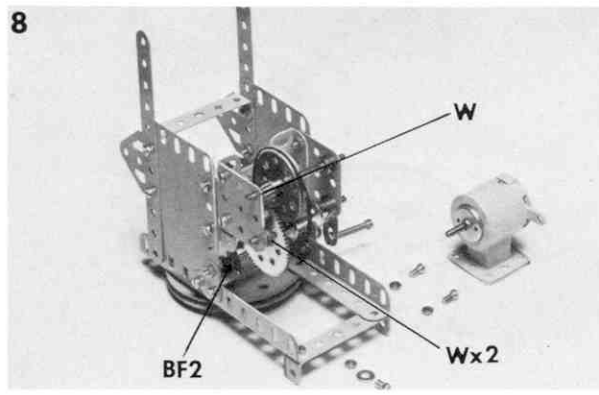
Infine, sulle fotografie vedrete marcata una serie di 'W'. Questi contrassegni indicano dove occorre montare delle rondelle. Il segno W x 2 significa che si devono usare due rondelle, W x 3 significa tre rondelle, e così via.

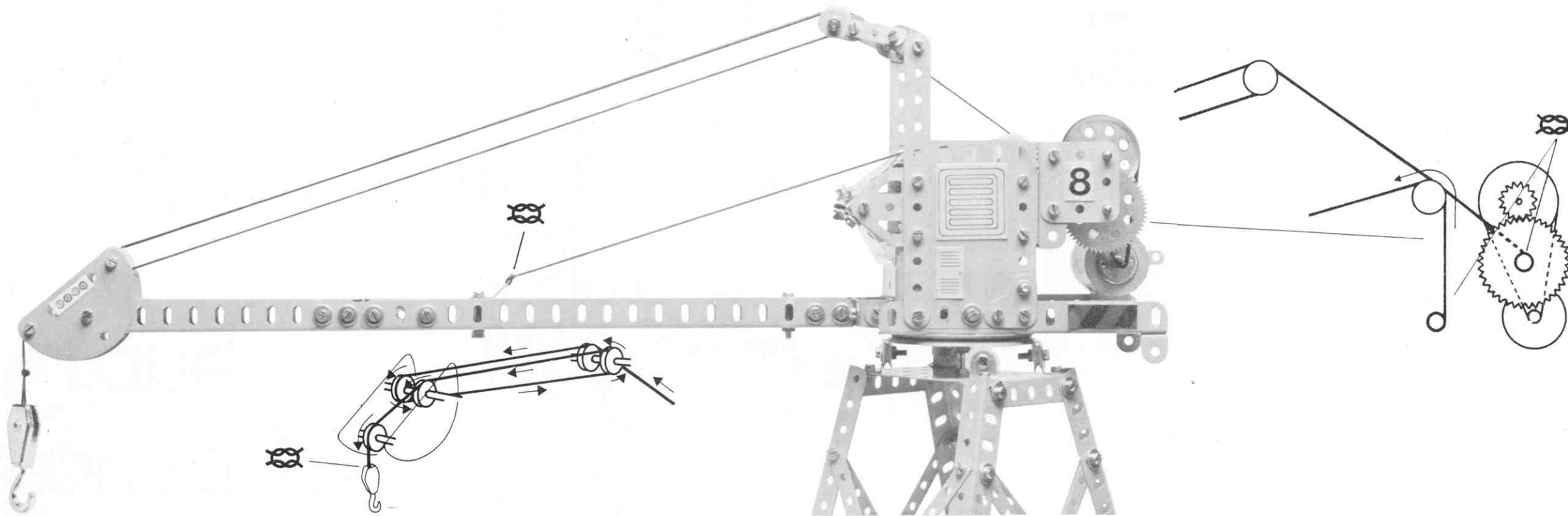
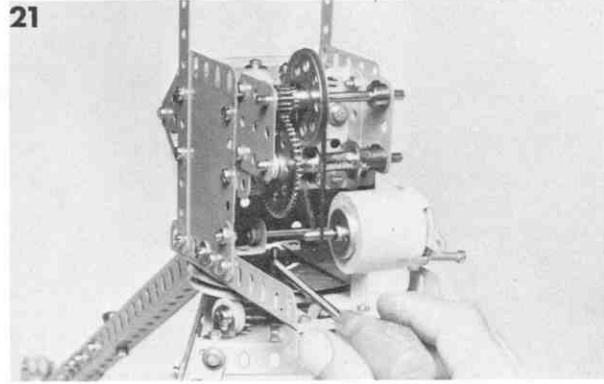
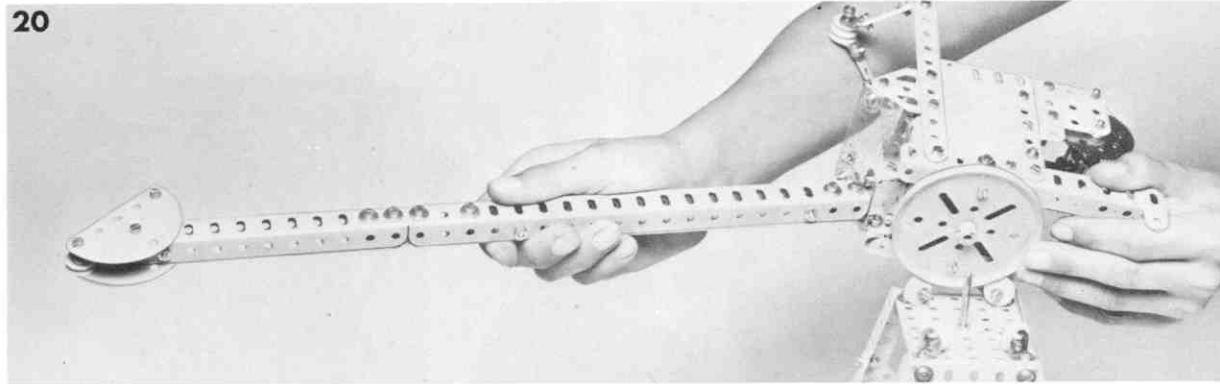
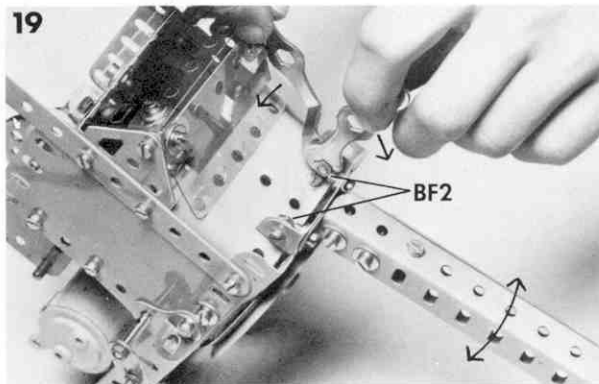




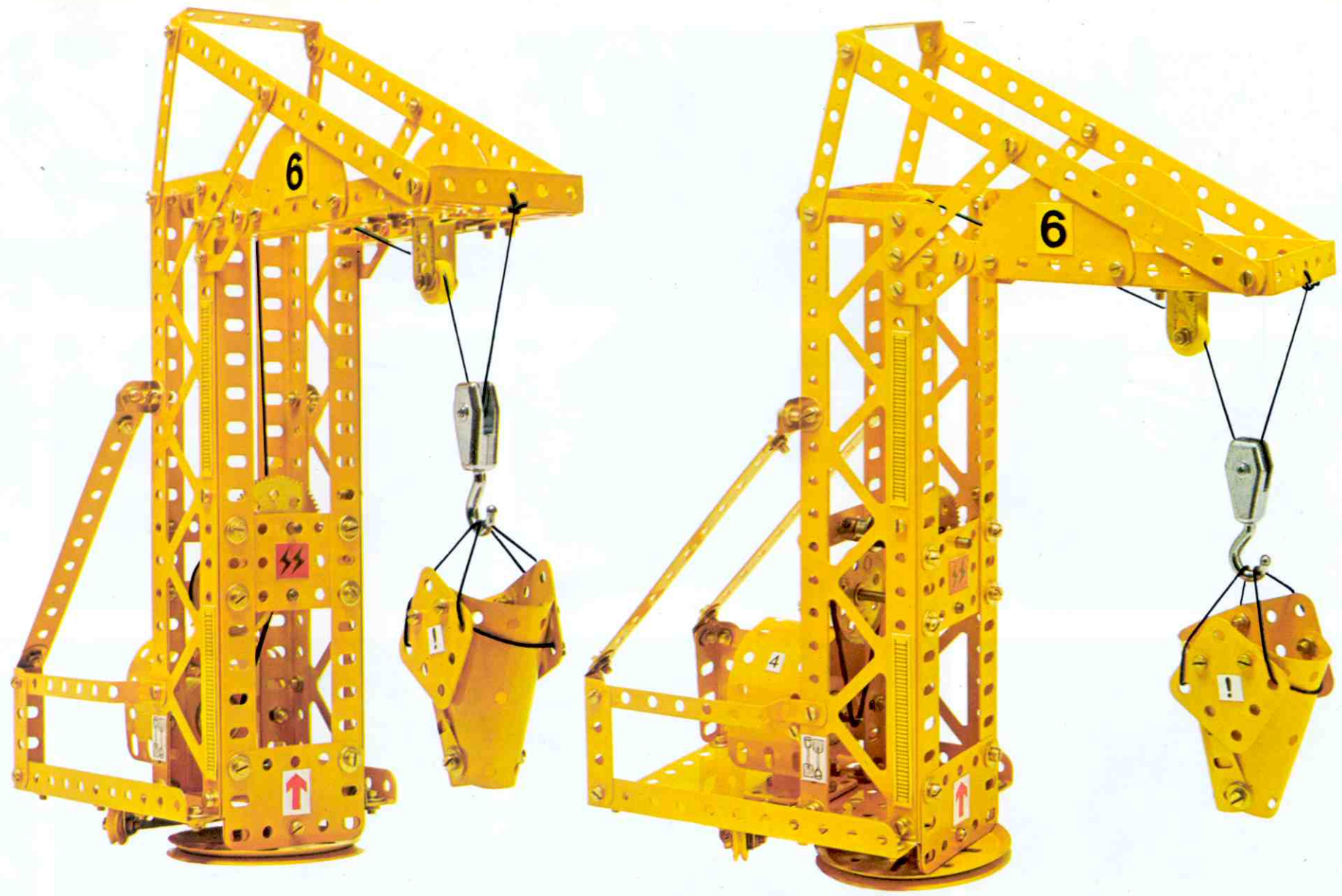
**Level Luffing
Crane**

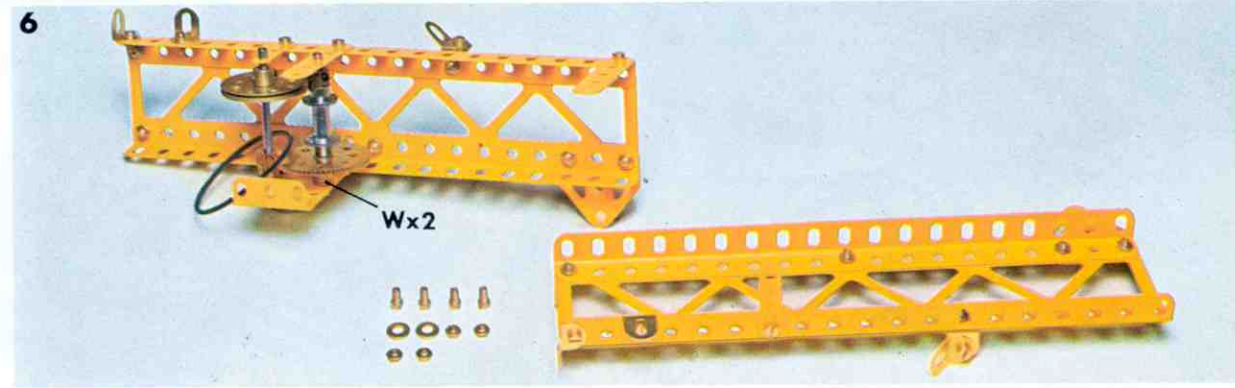
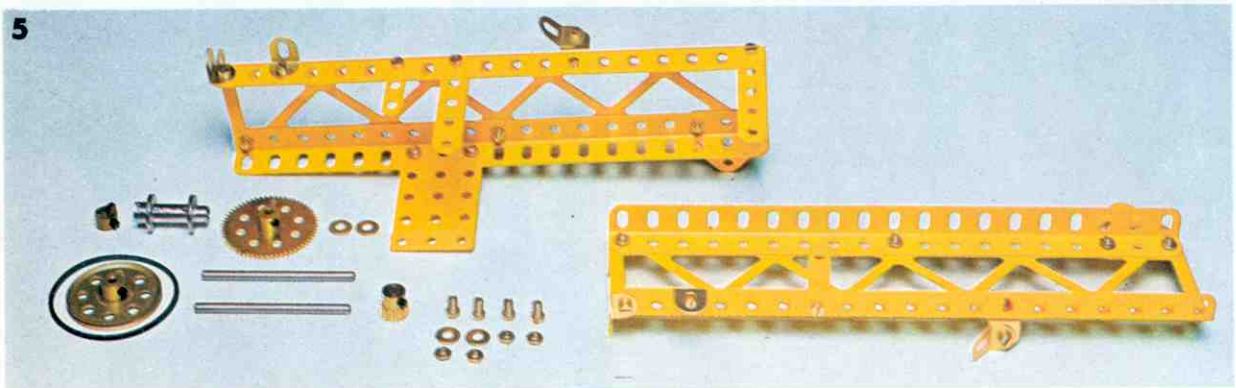
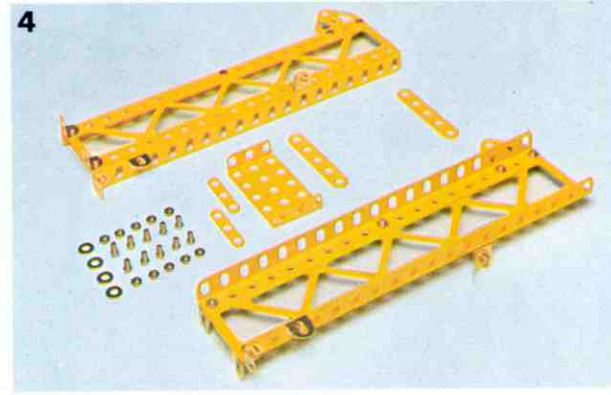
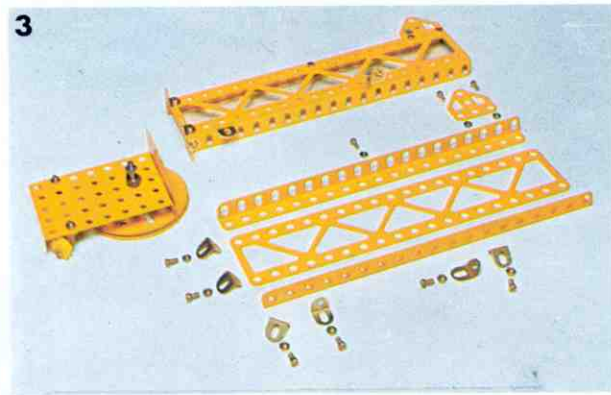
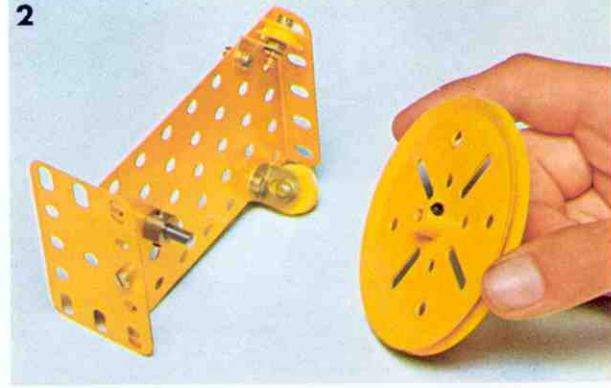
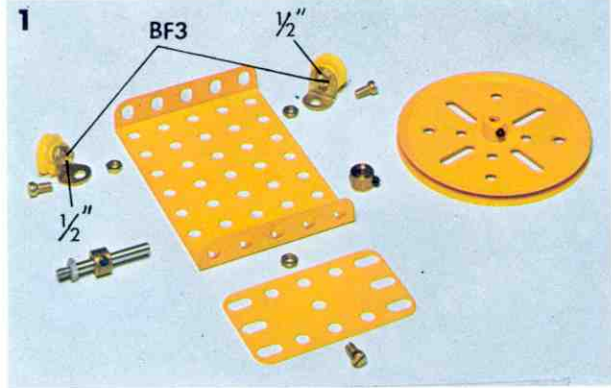
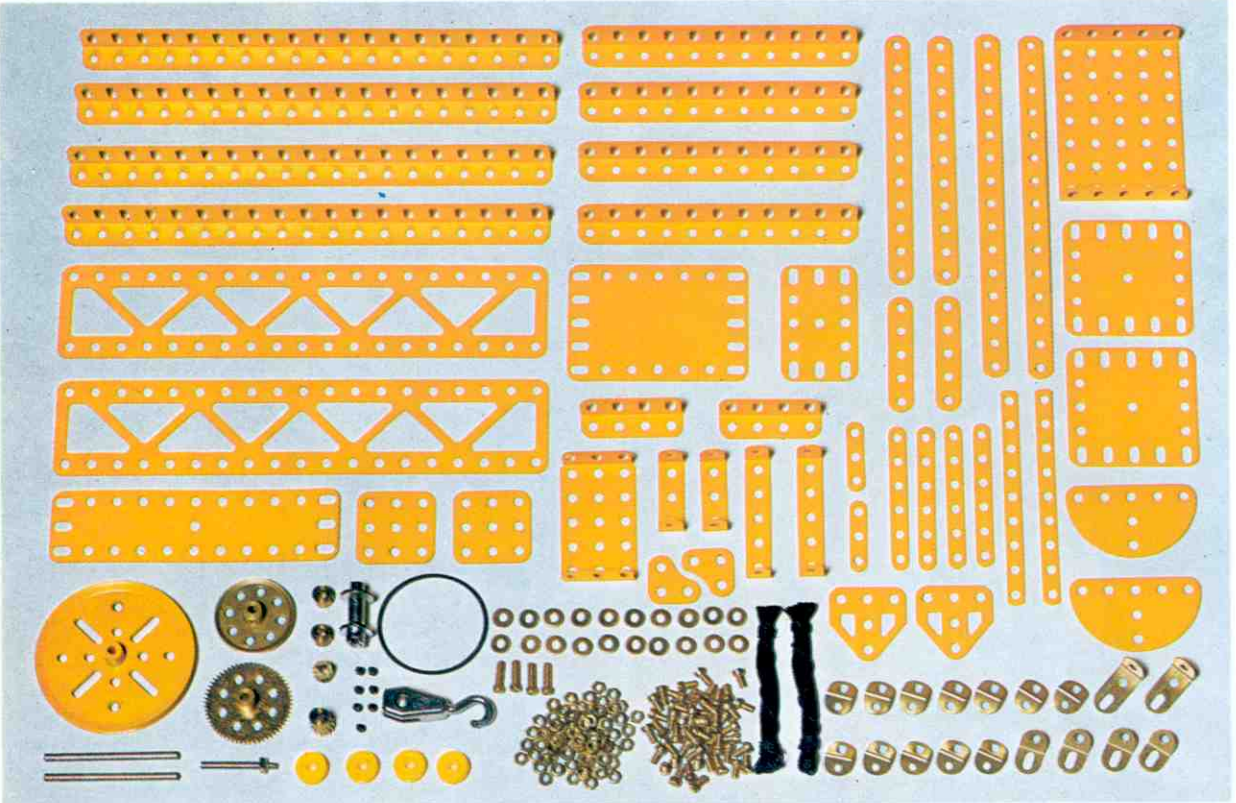


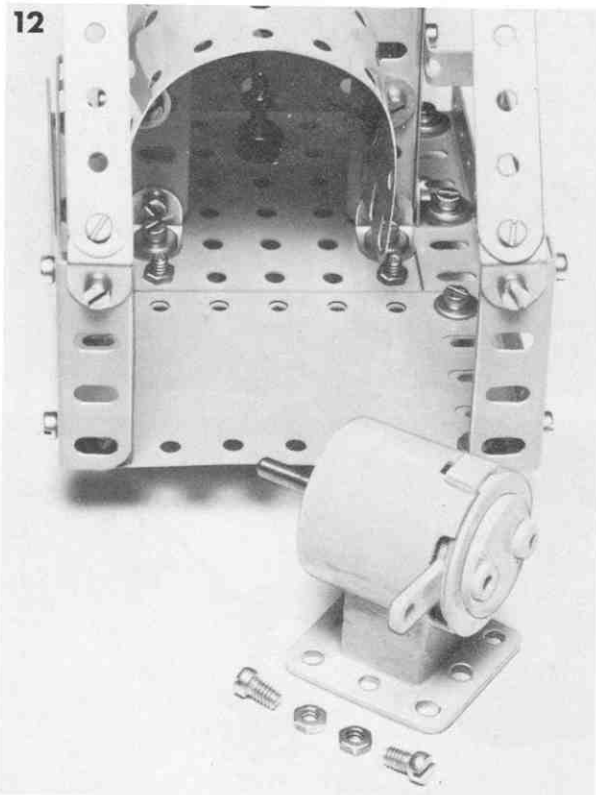
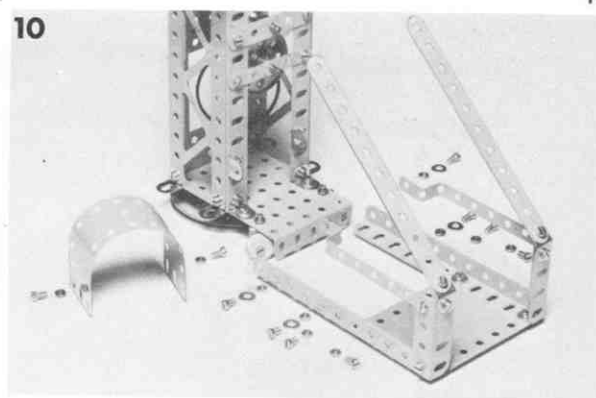
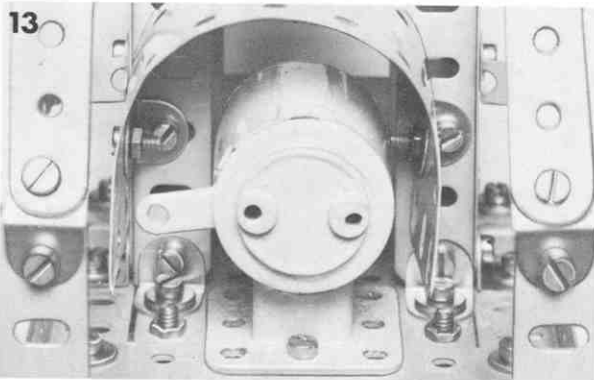
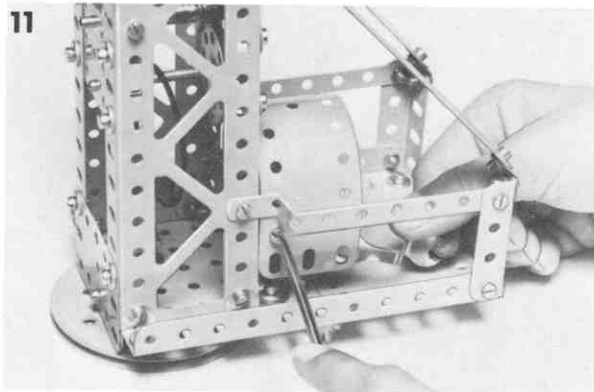
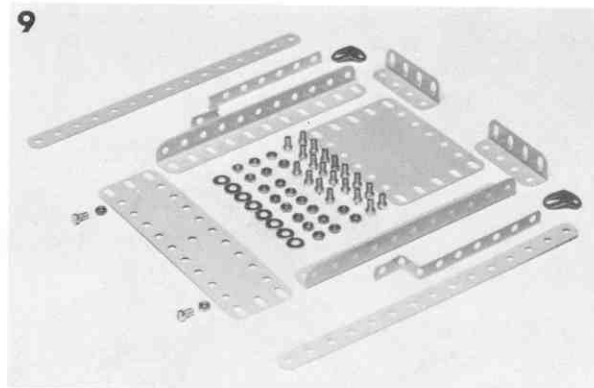
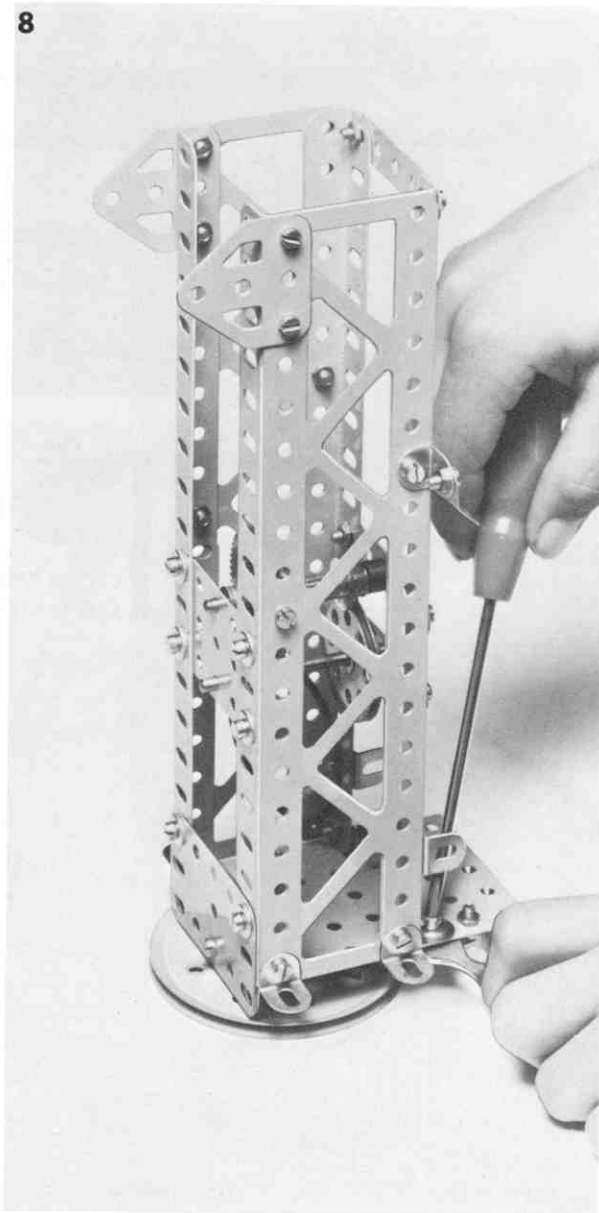
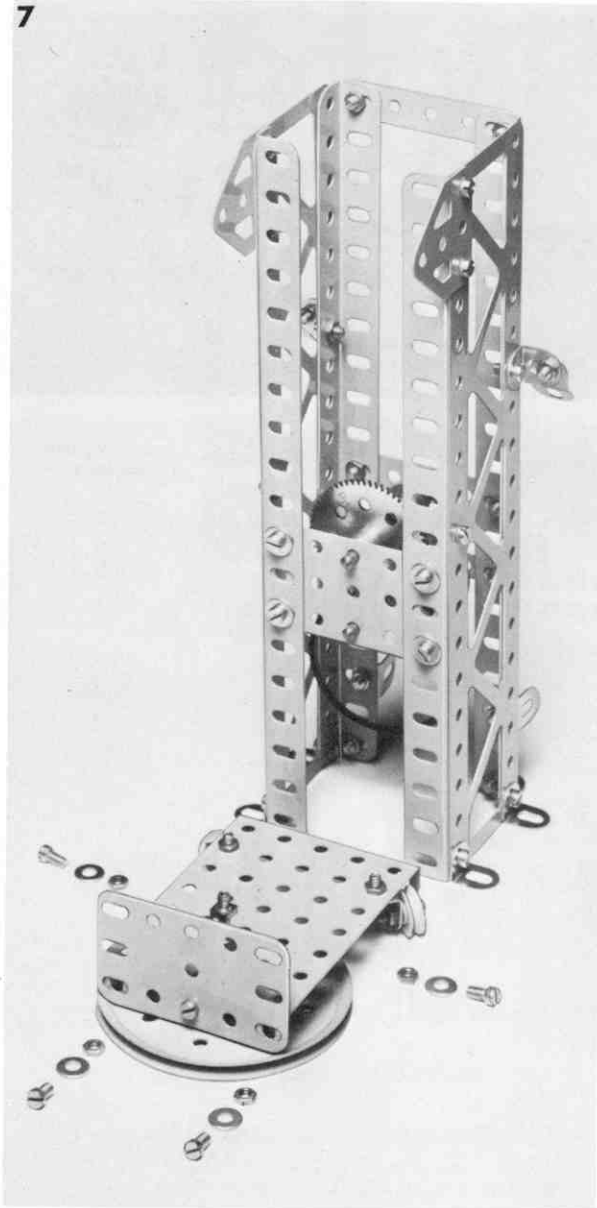


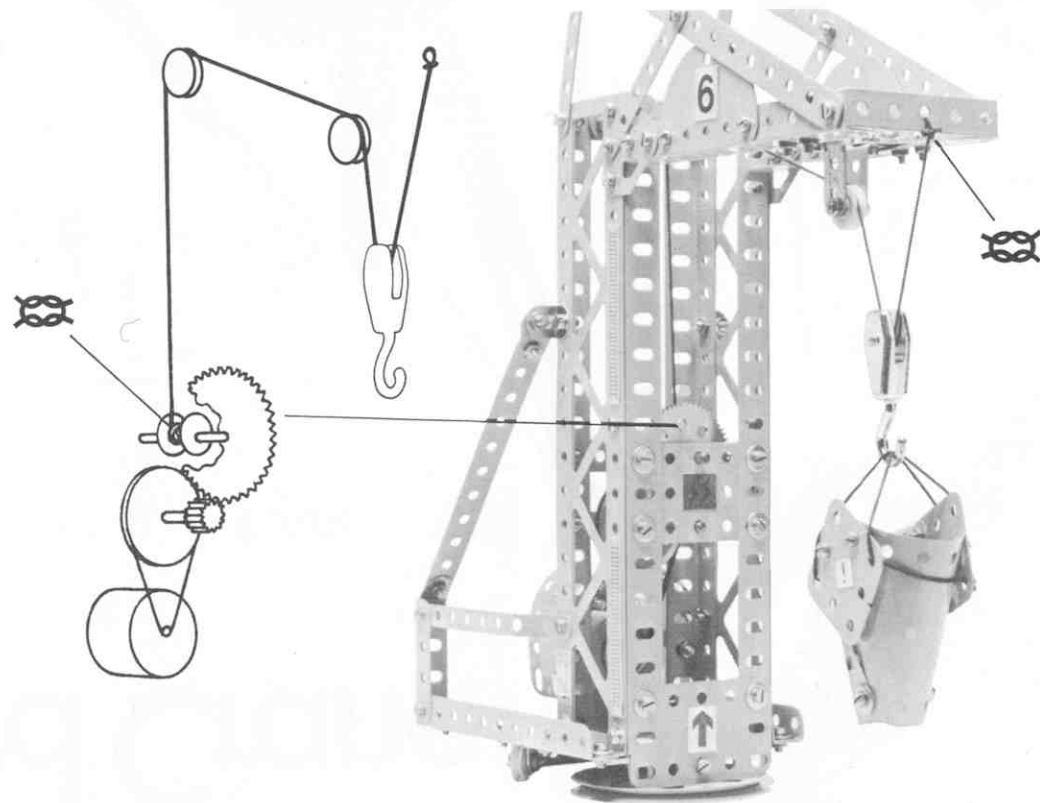
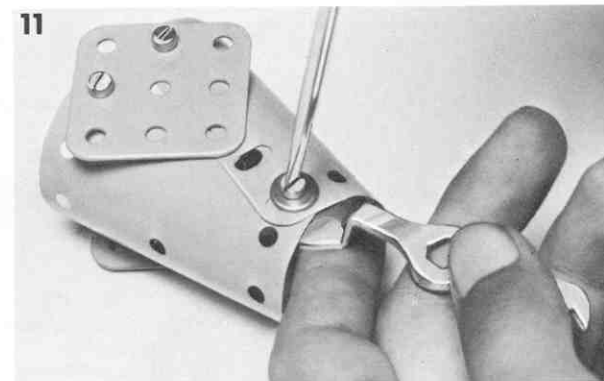
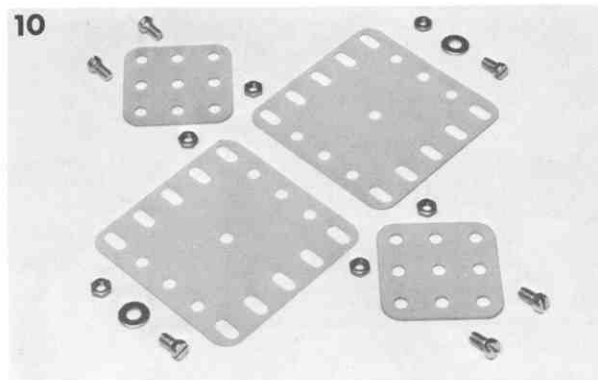
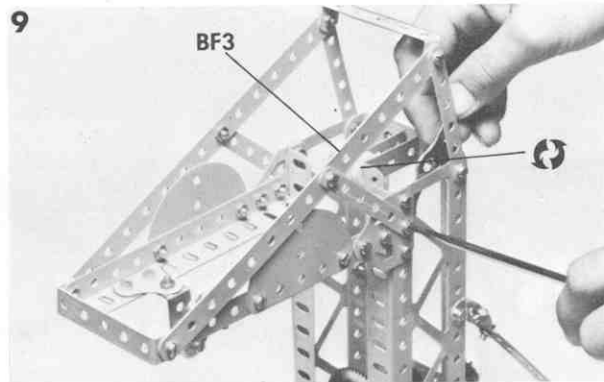
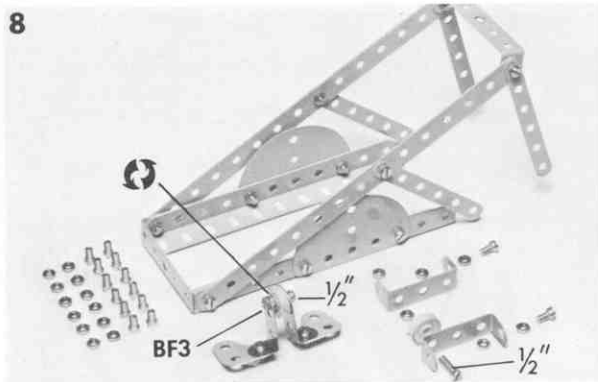


Foundry Crane

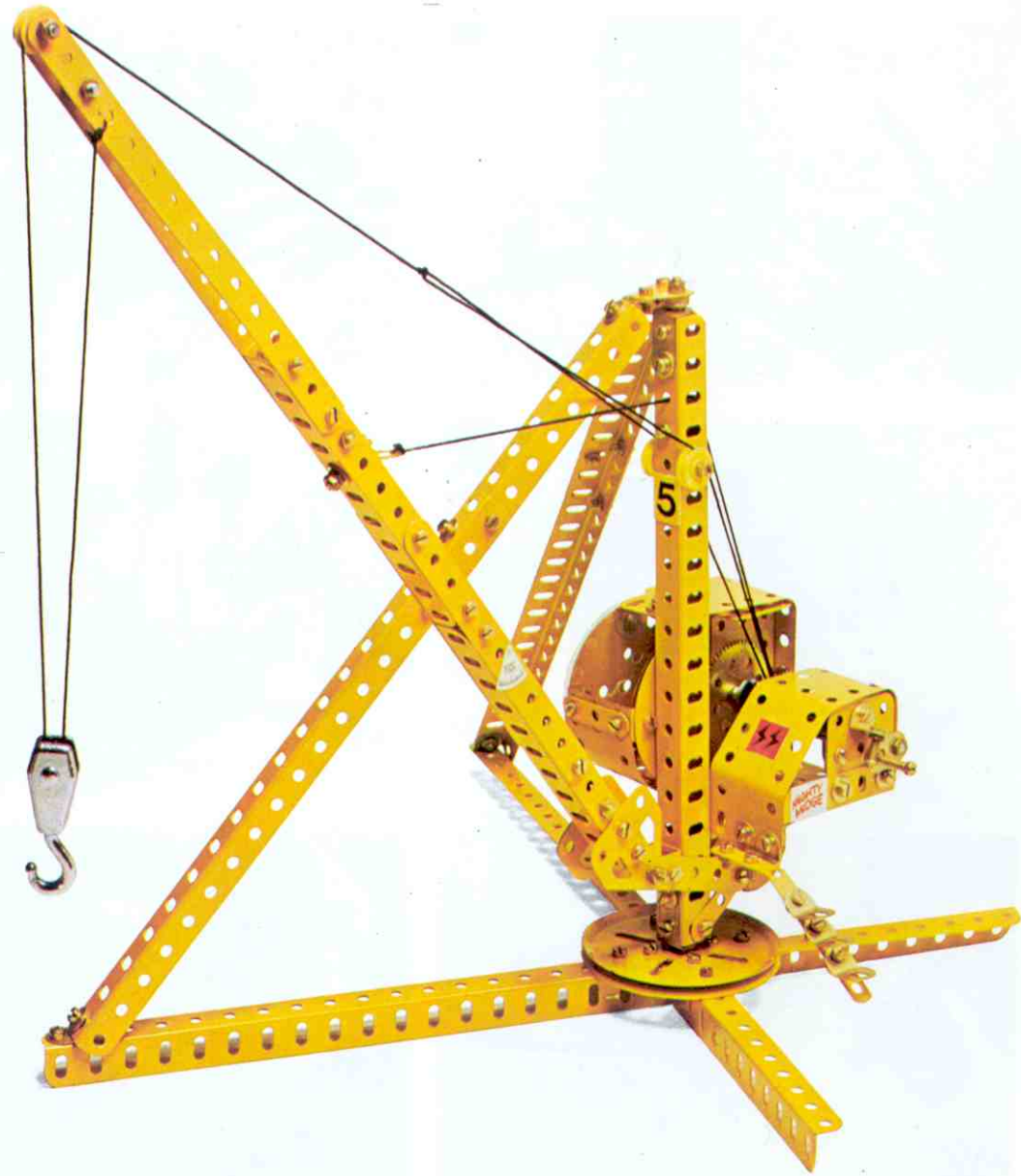
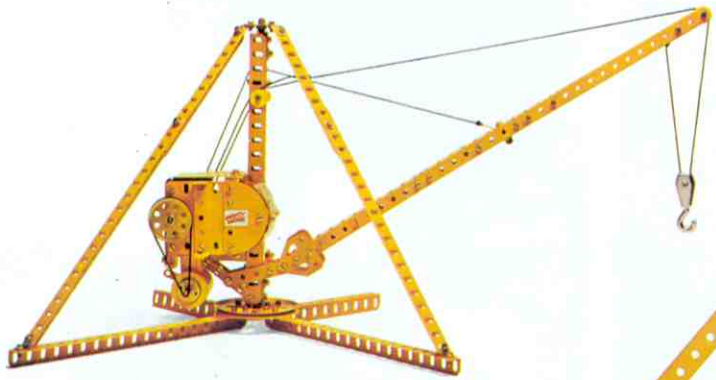


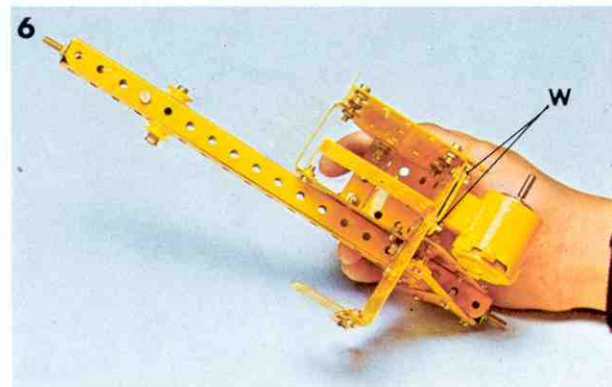
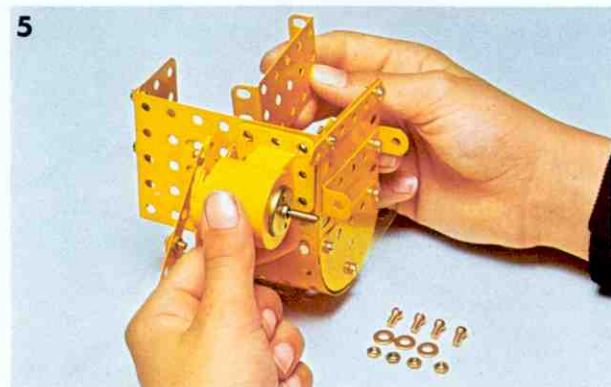
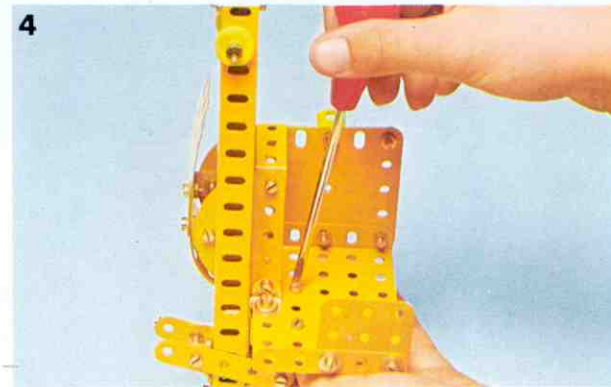
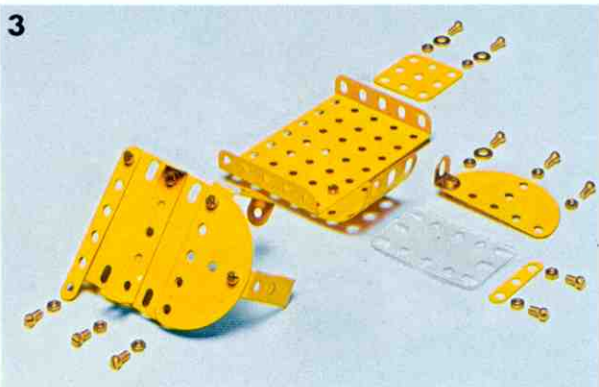
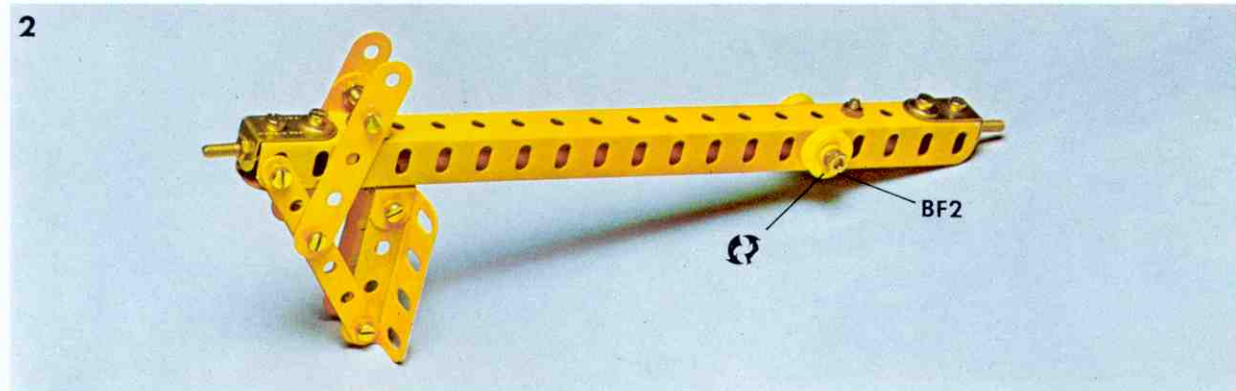
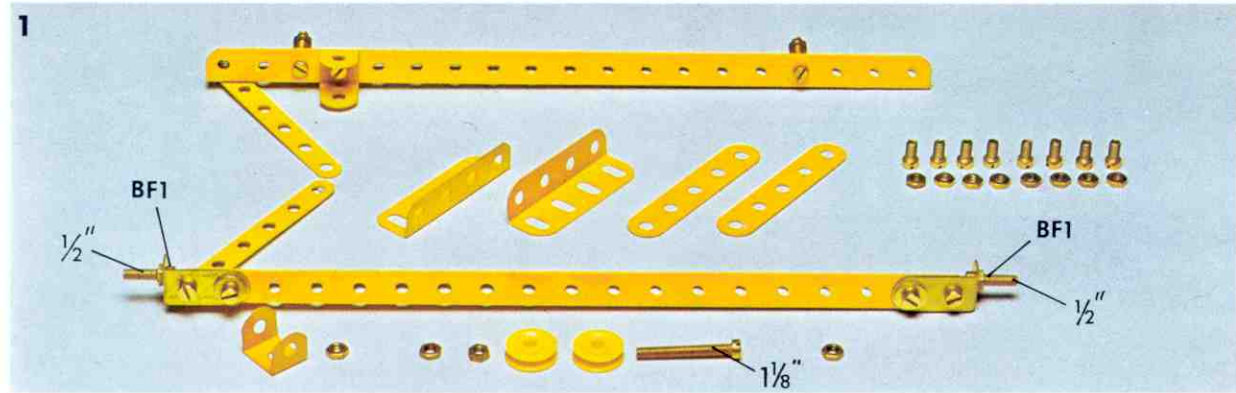
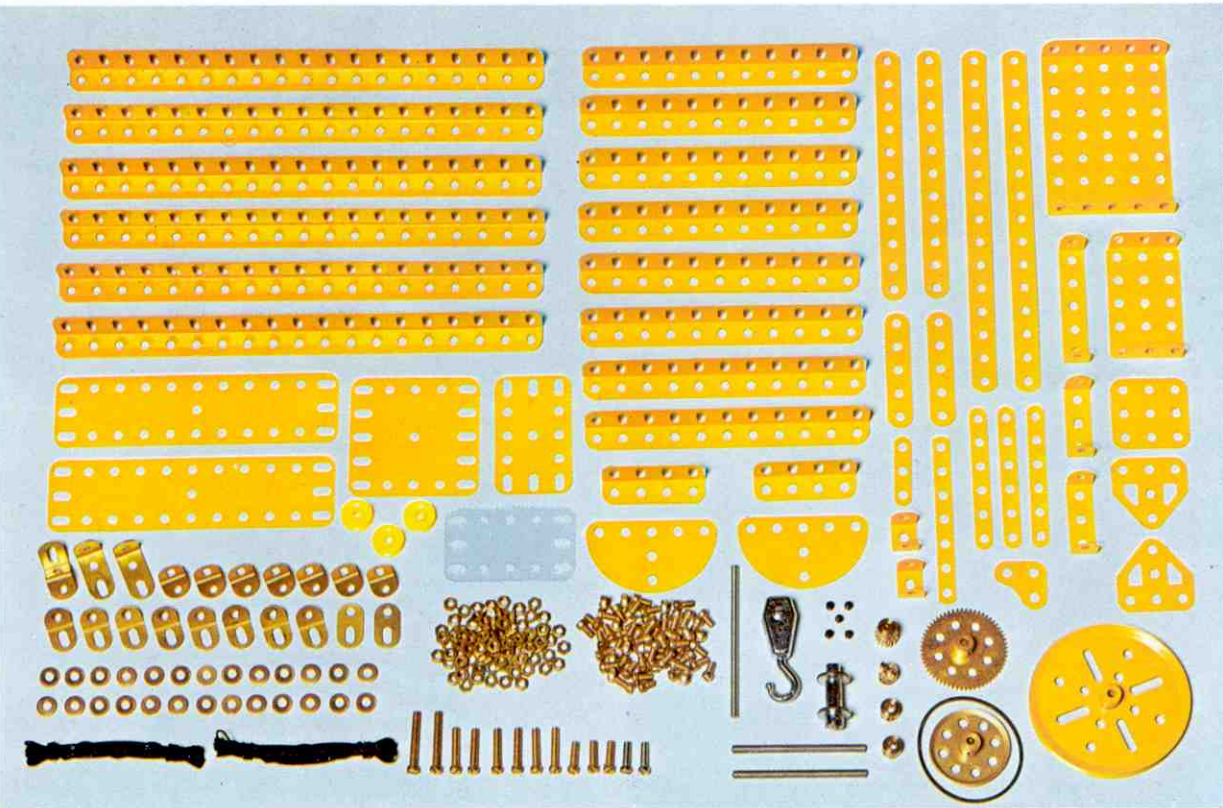


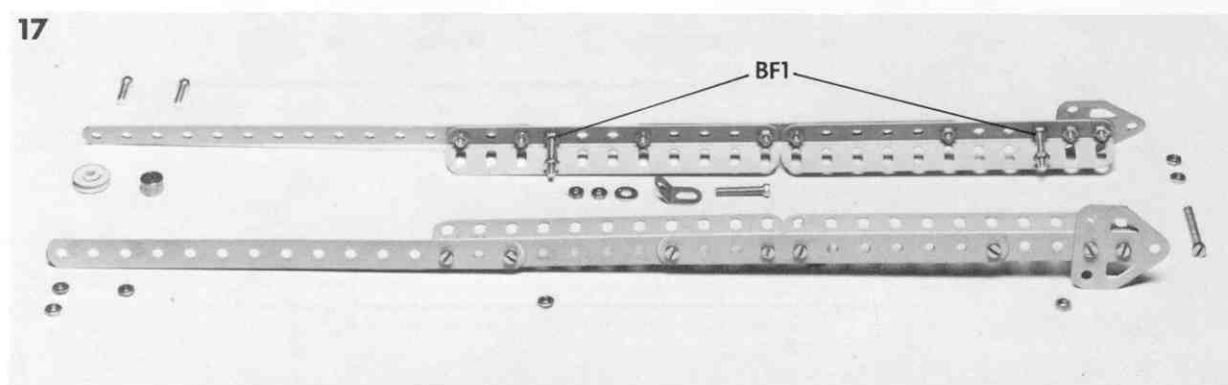
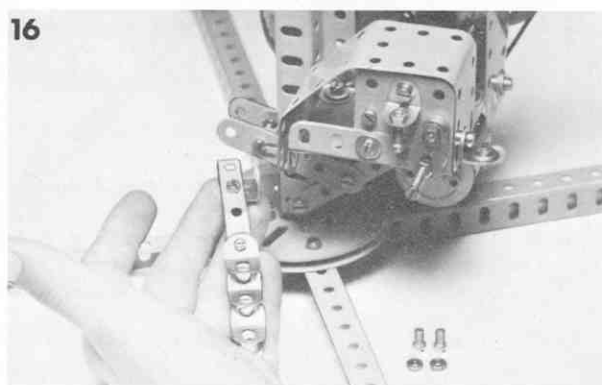
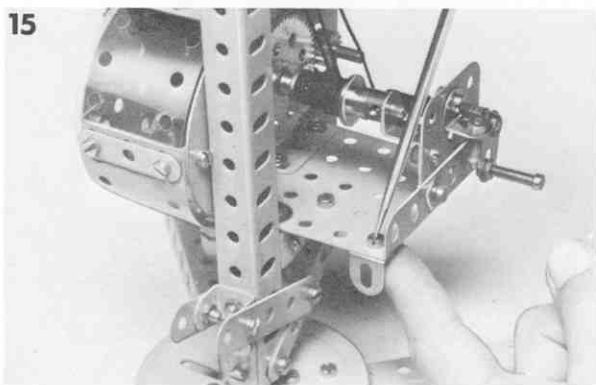
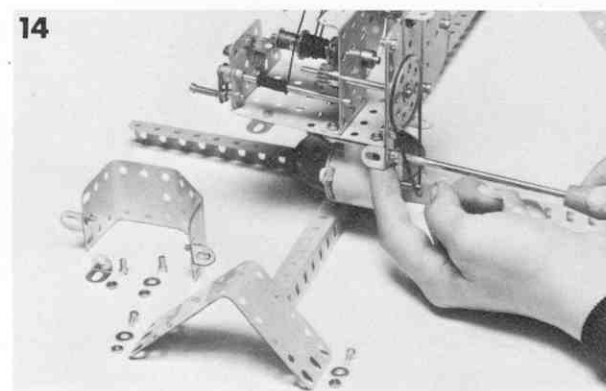
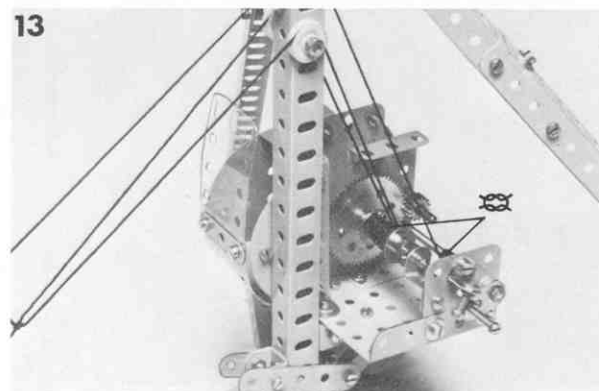
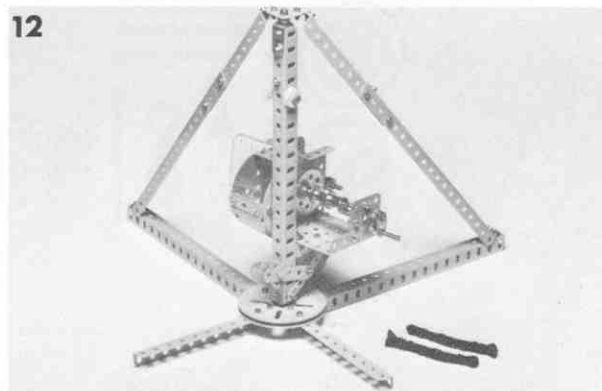
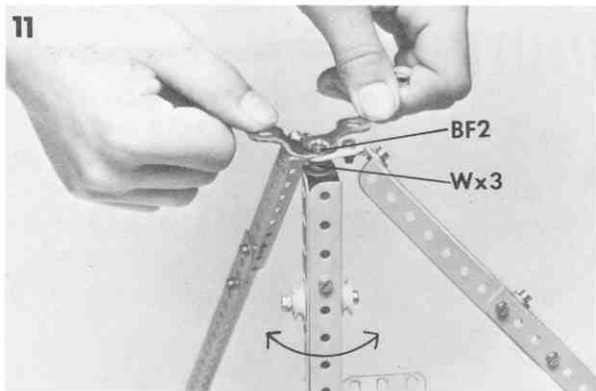
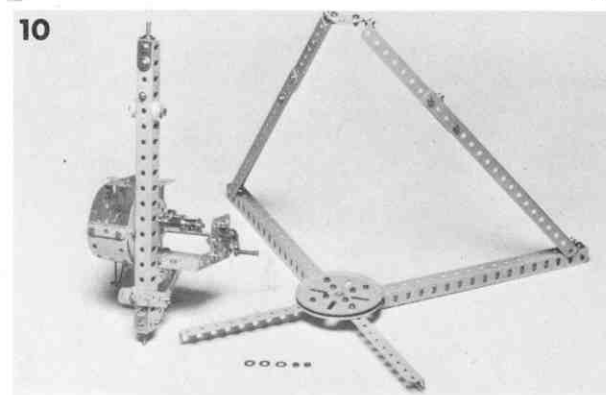
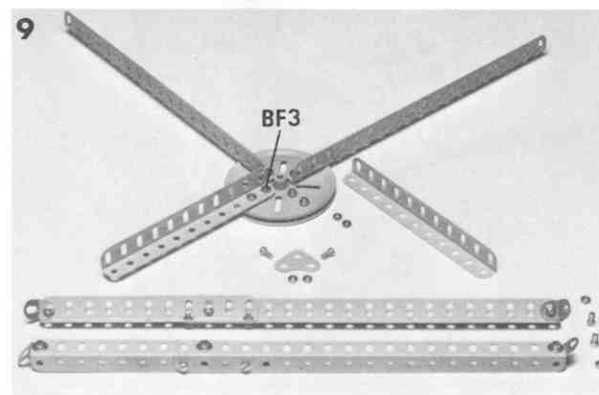
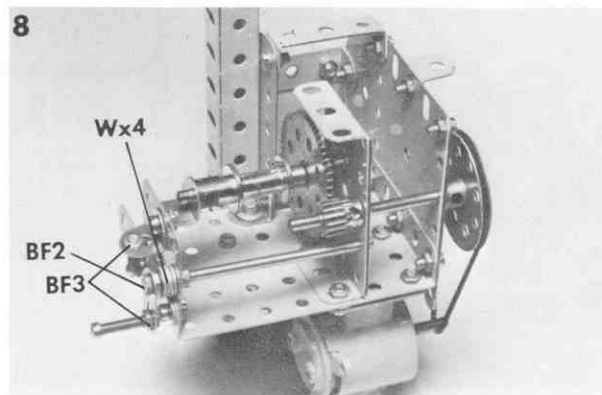
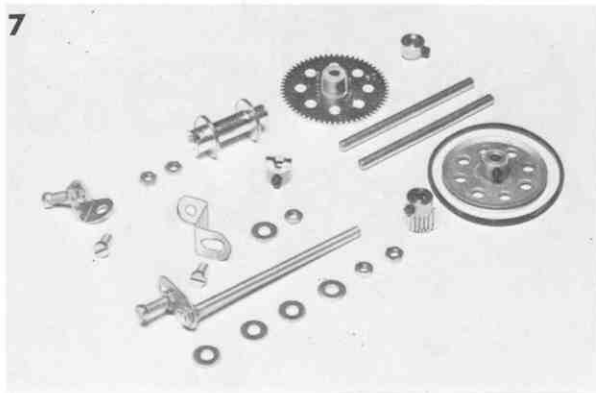




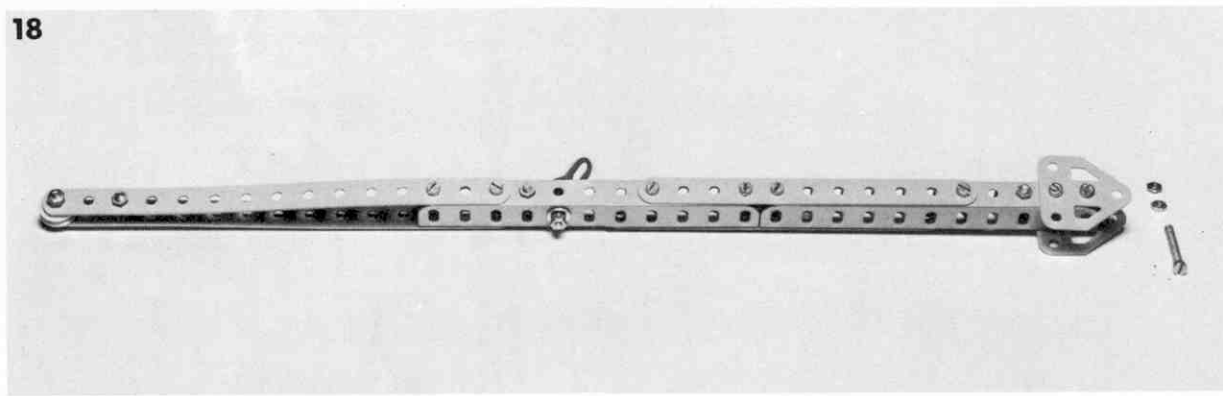
Breakers Yard Crane



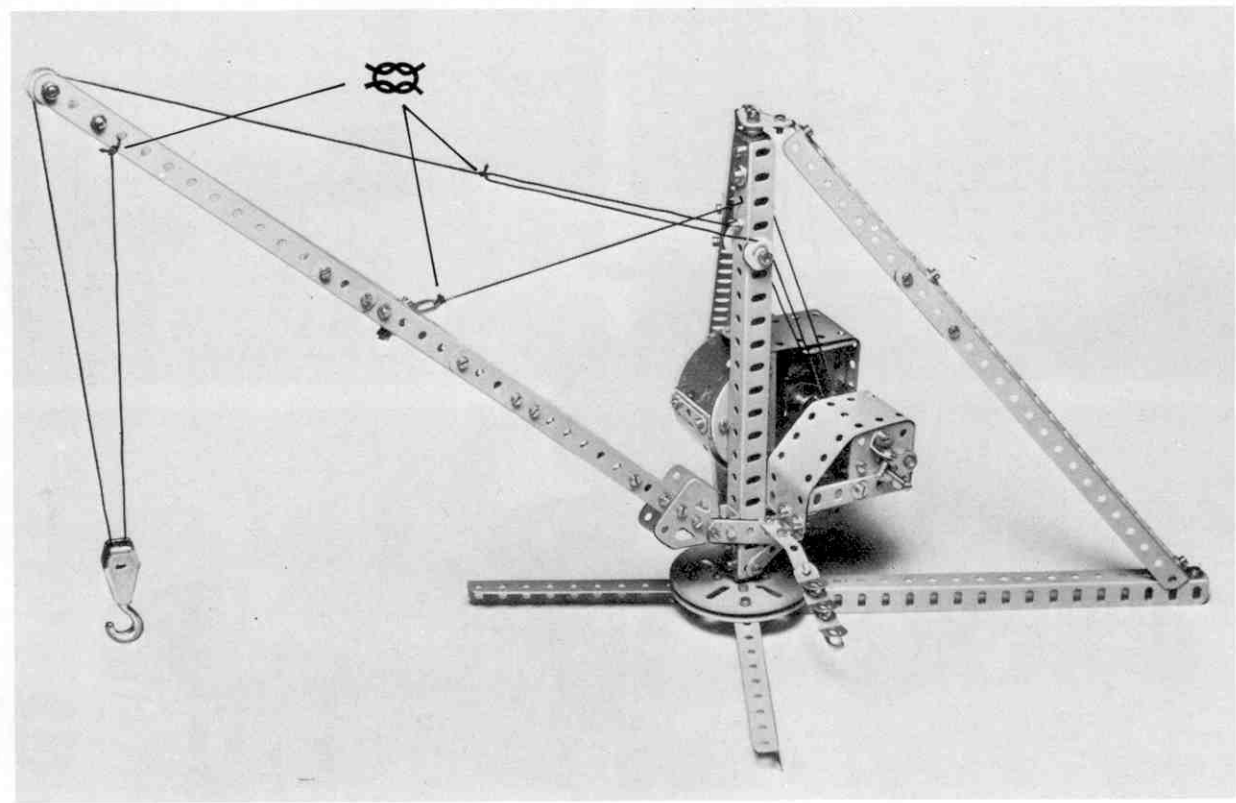
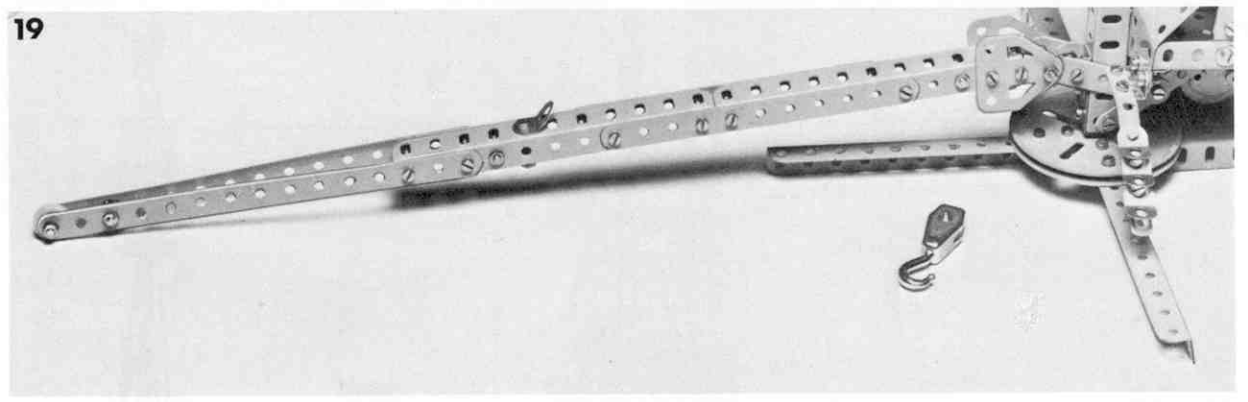




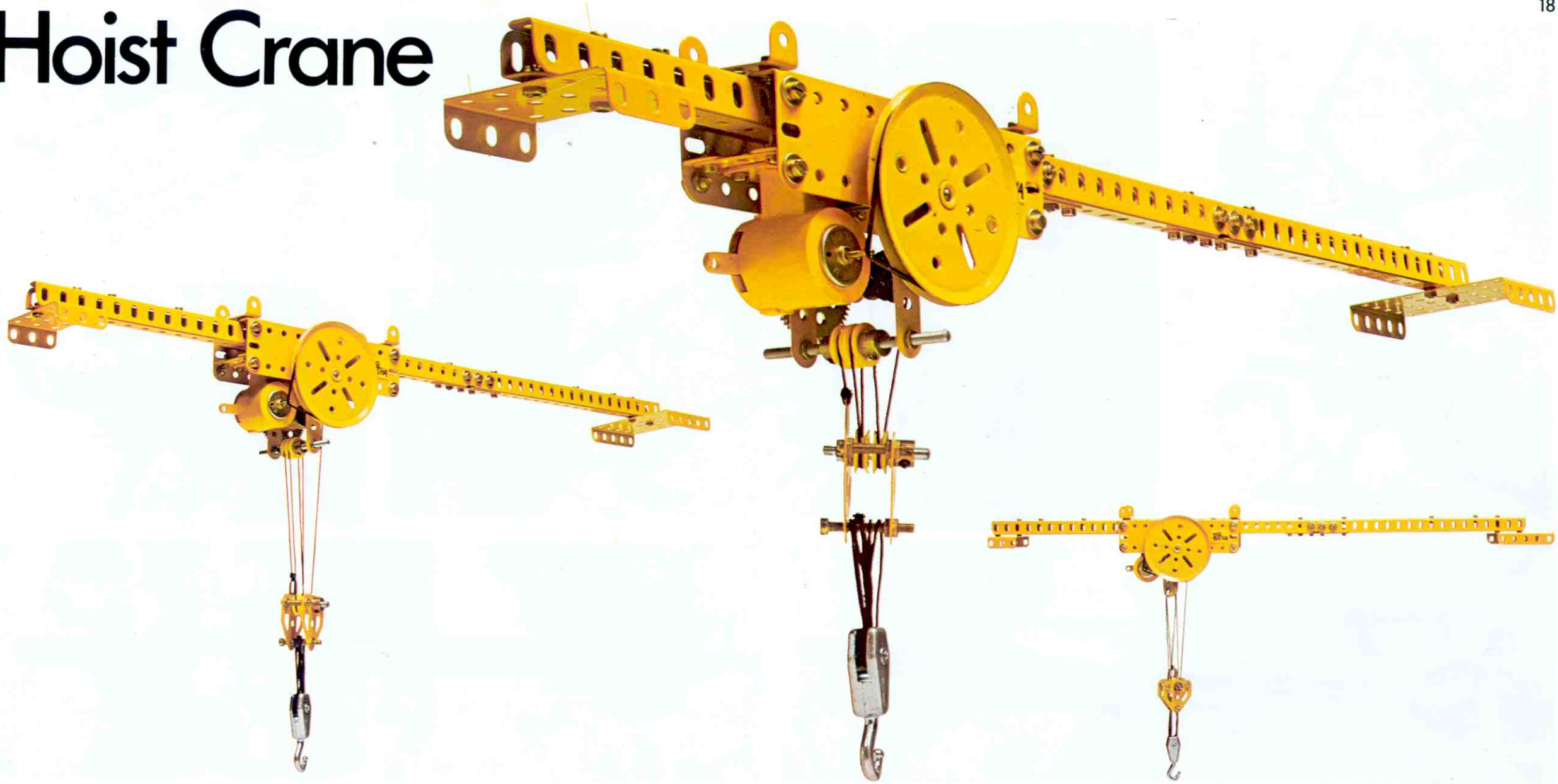
18

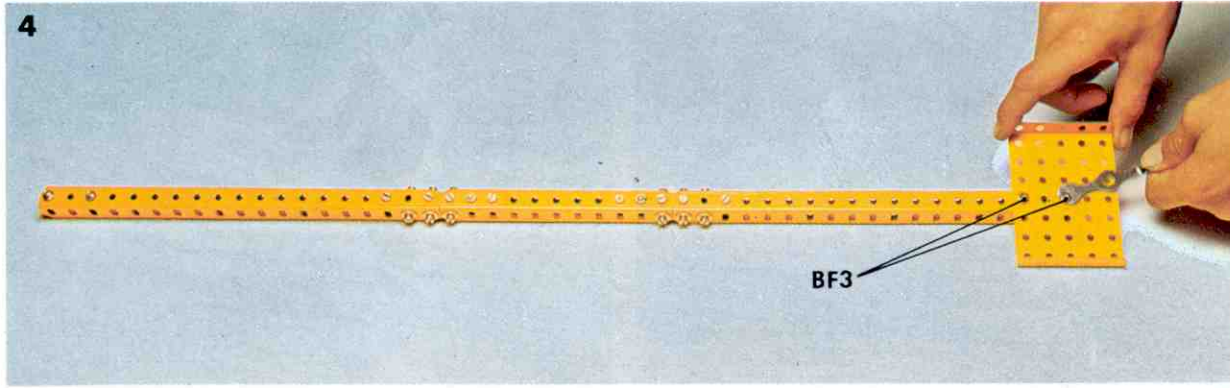
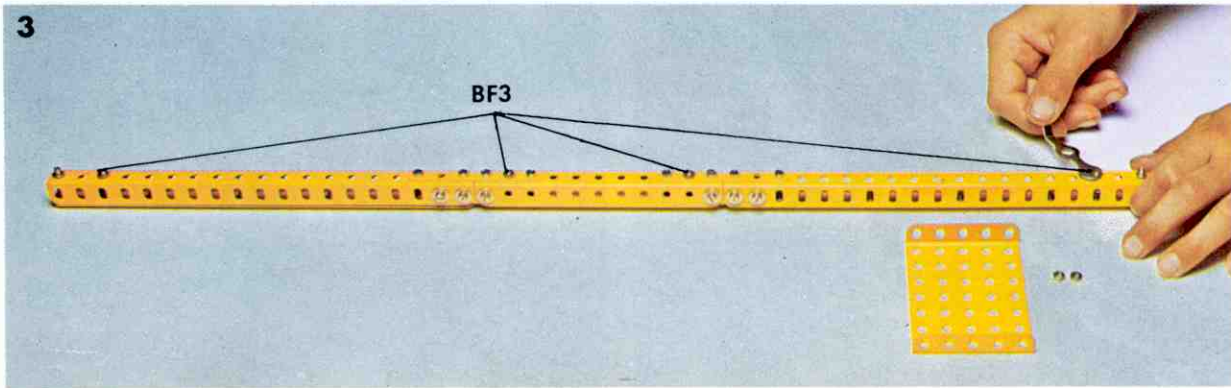
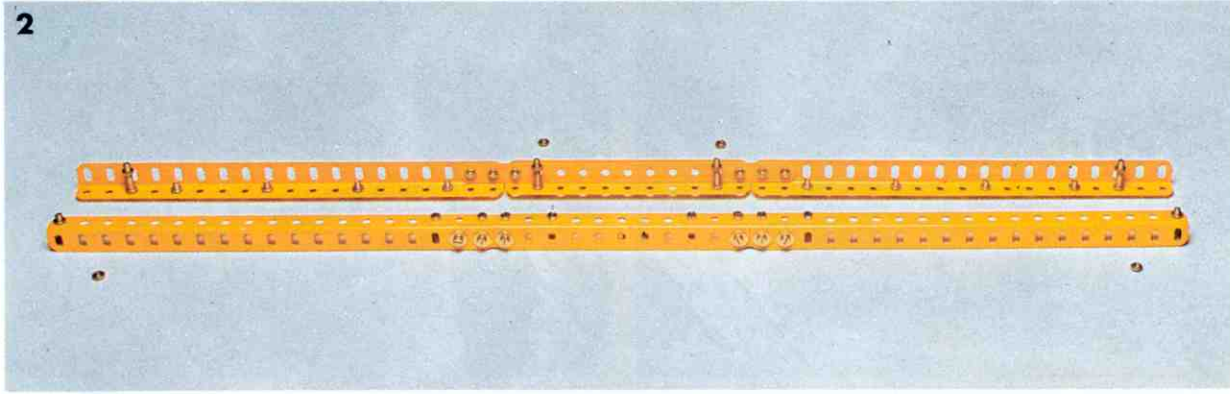
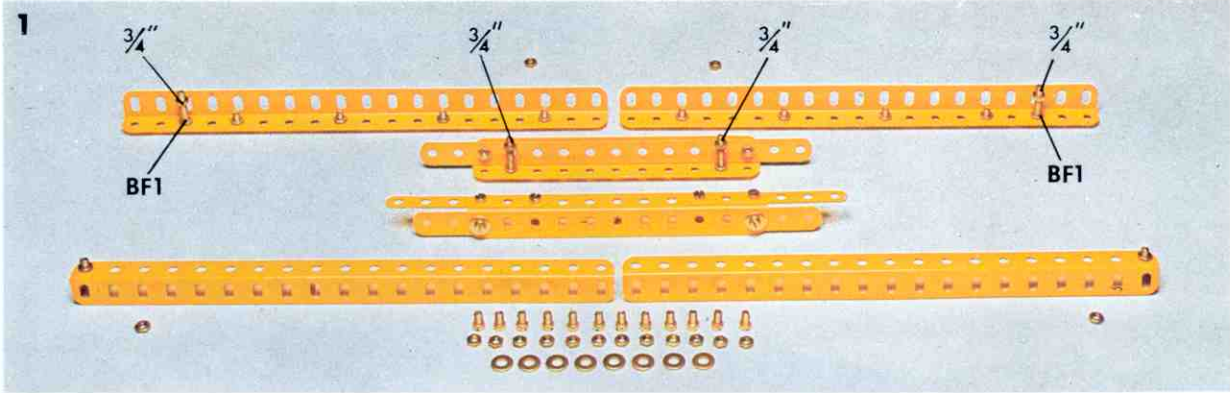
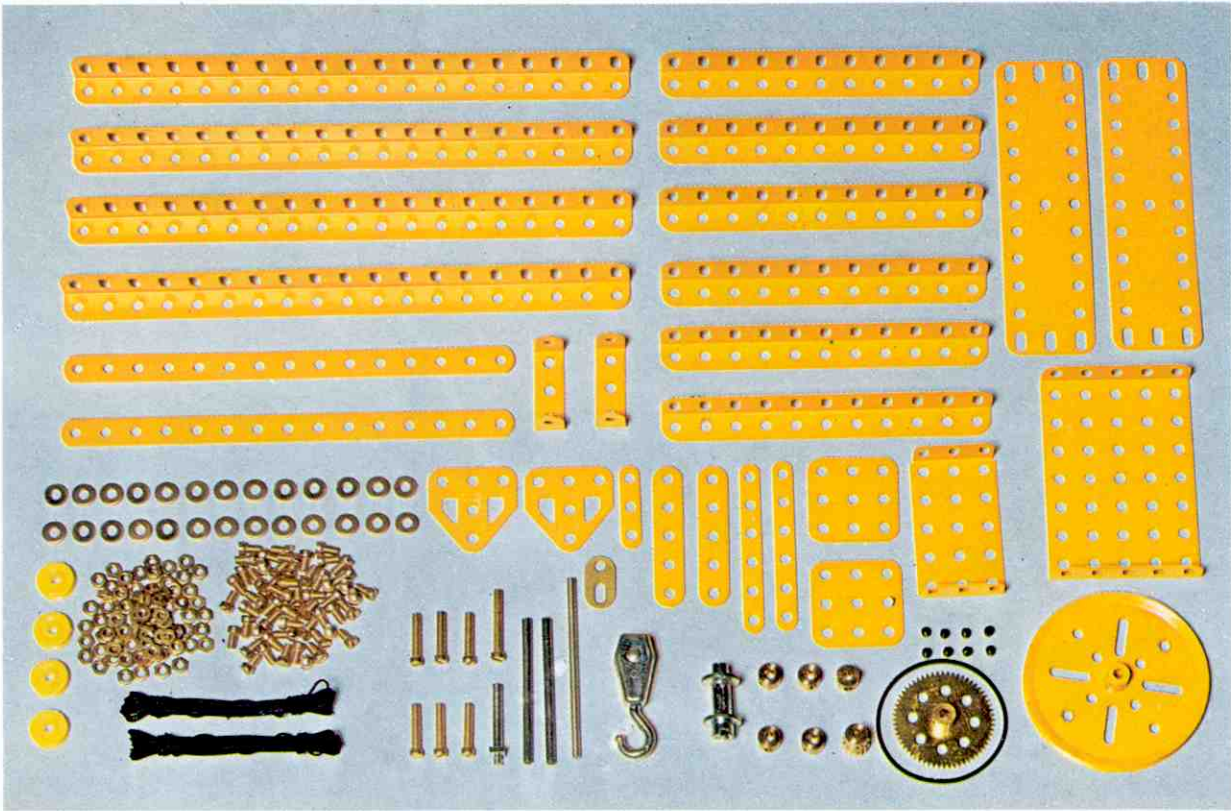


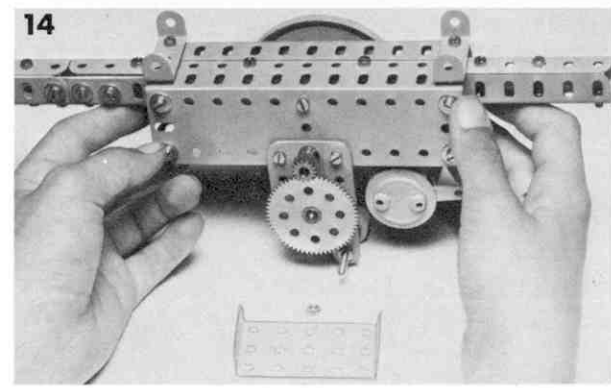
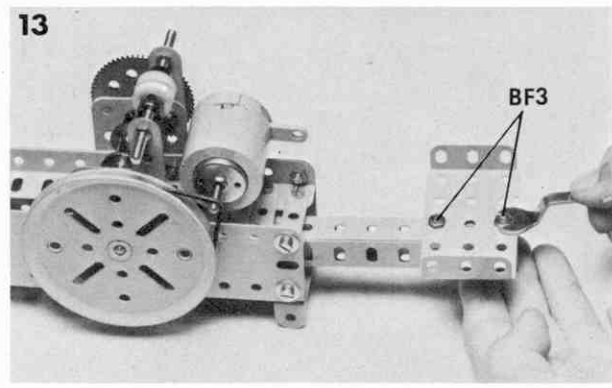
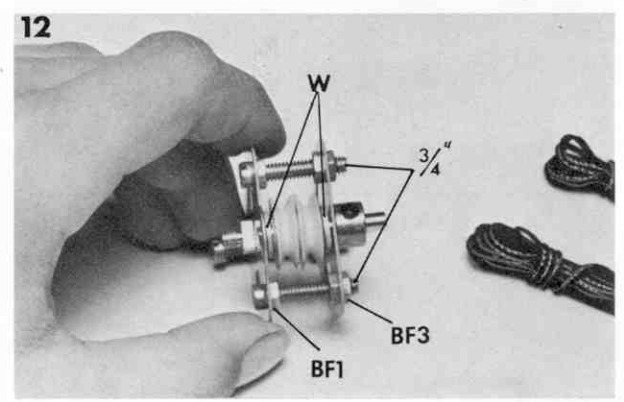
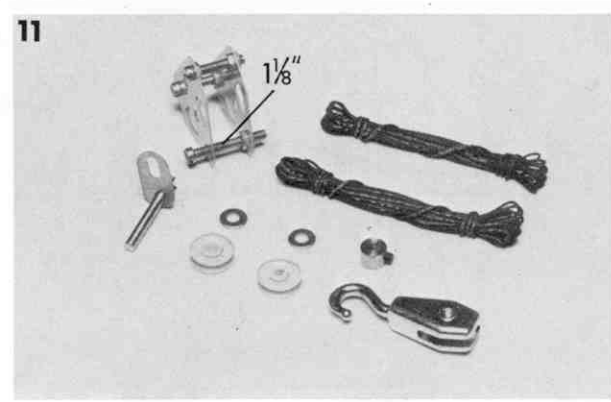
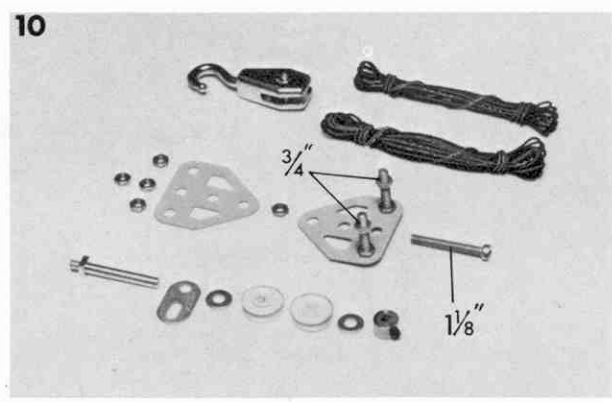
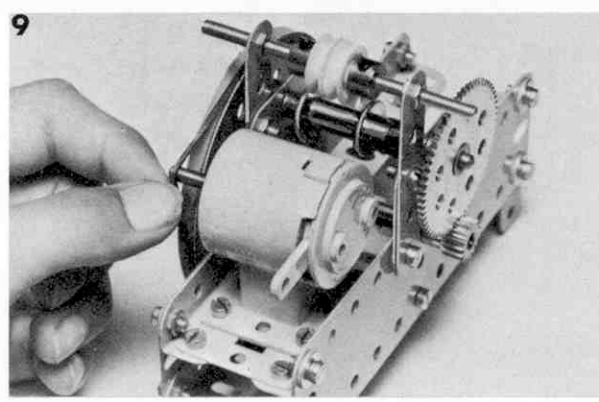
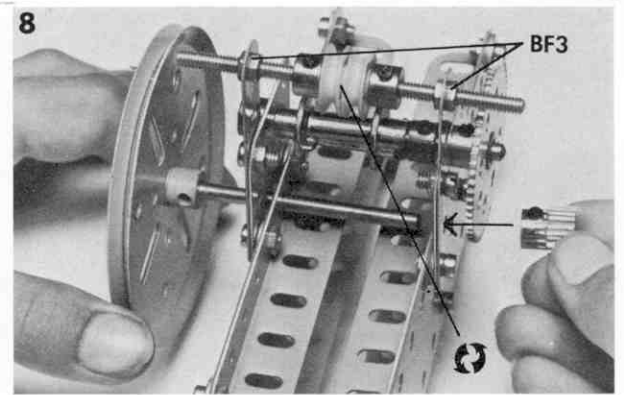
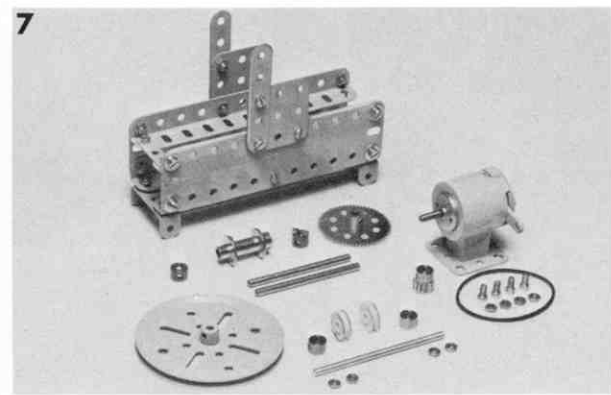
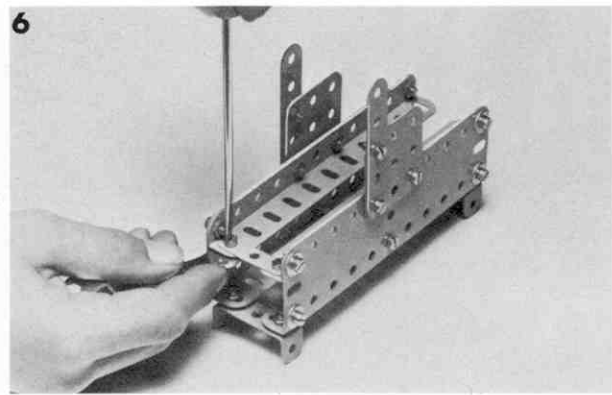
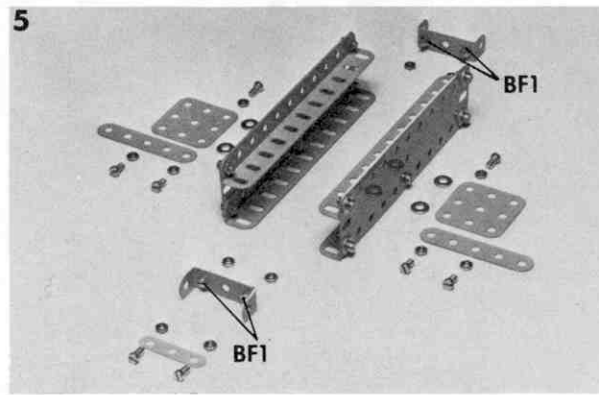
19

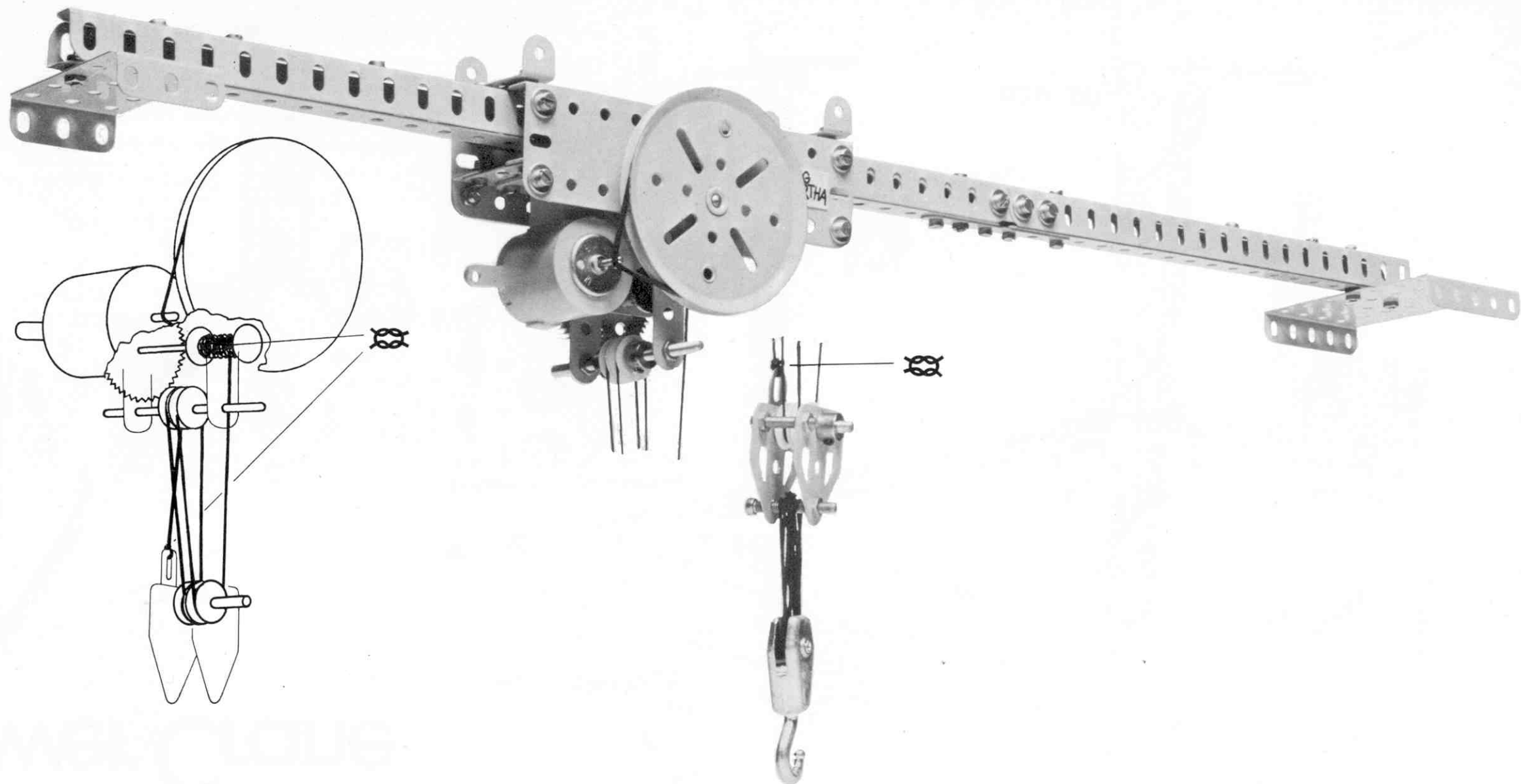


Hoist Crane



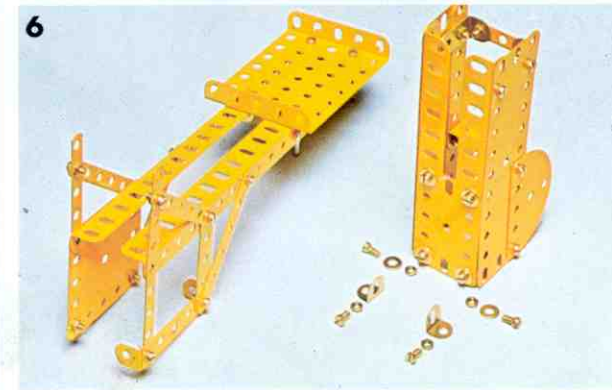
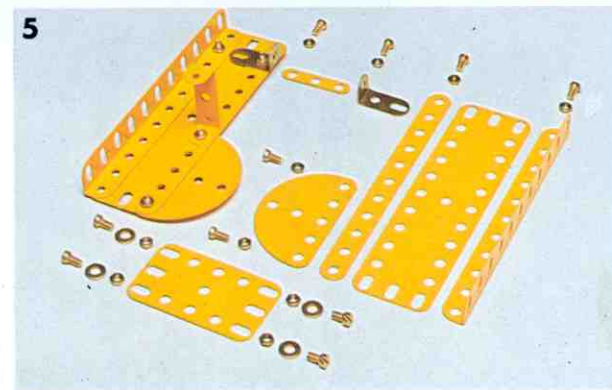
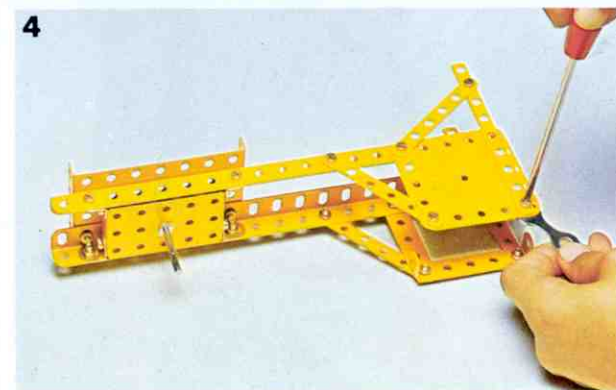
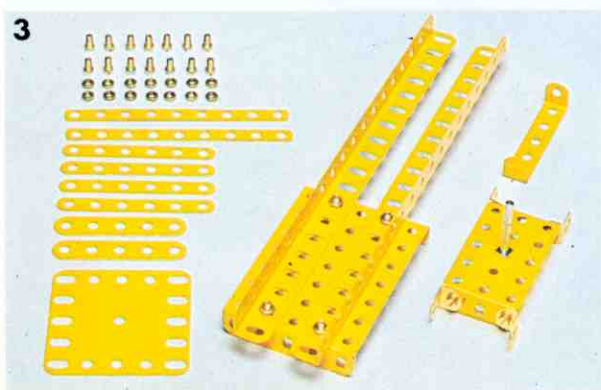
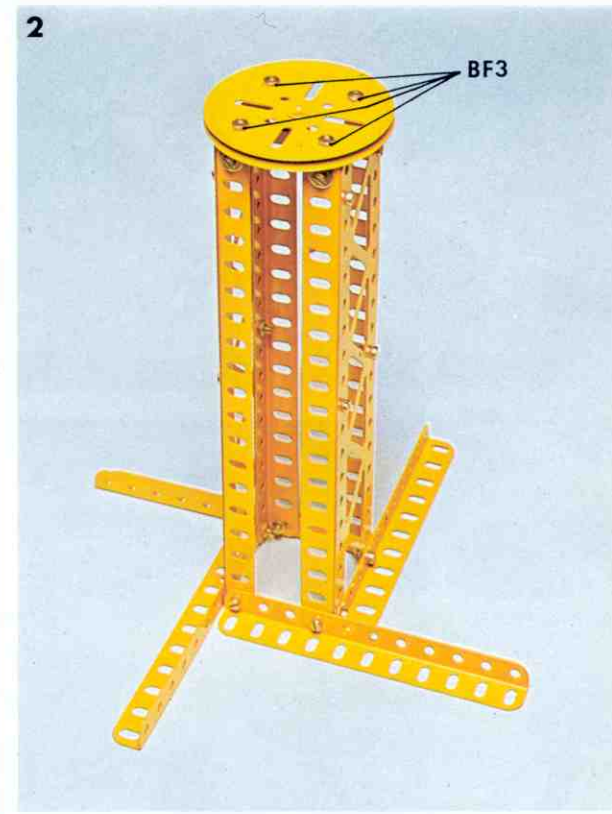
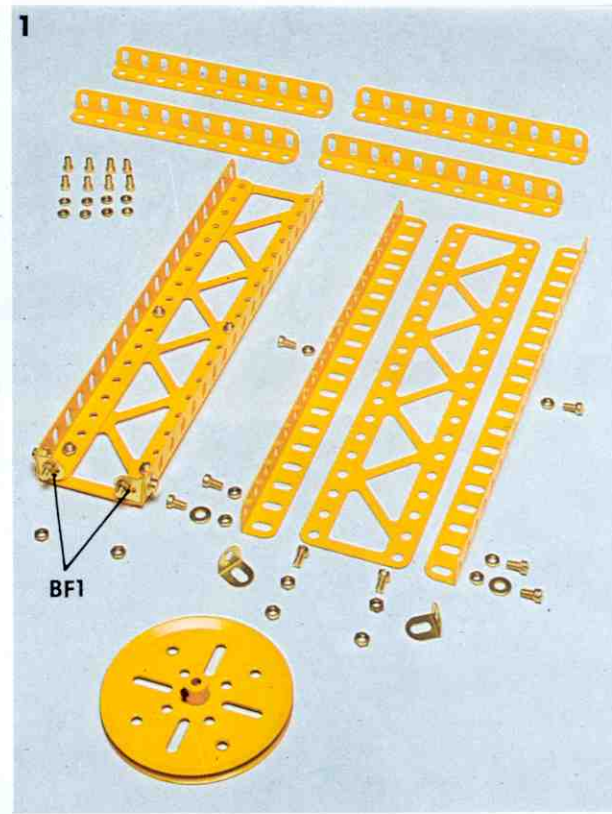
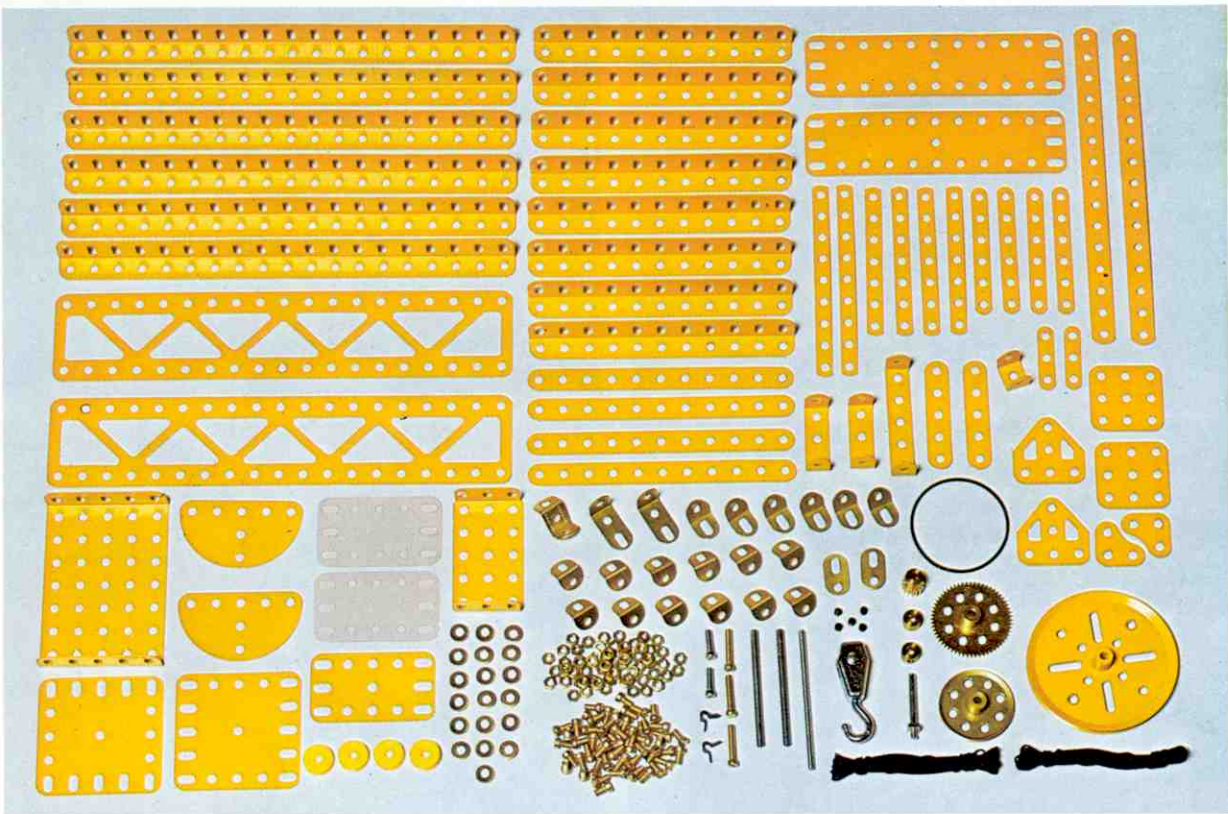


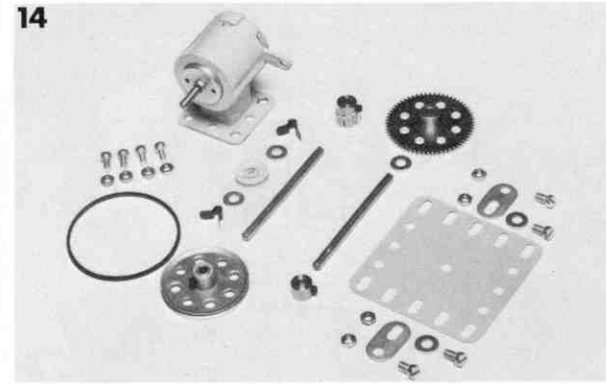
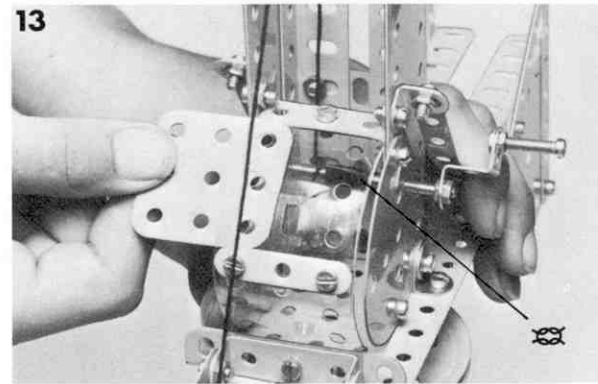
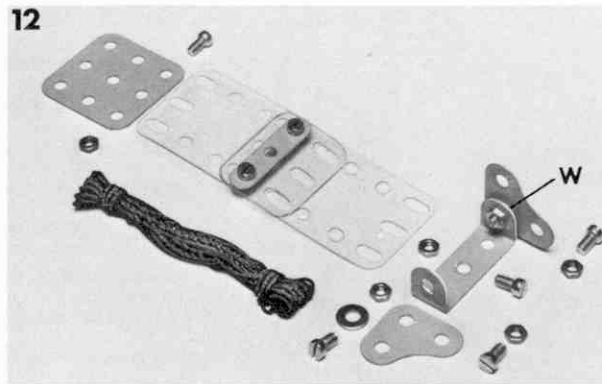
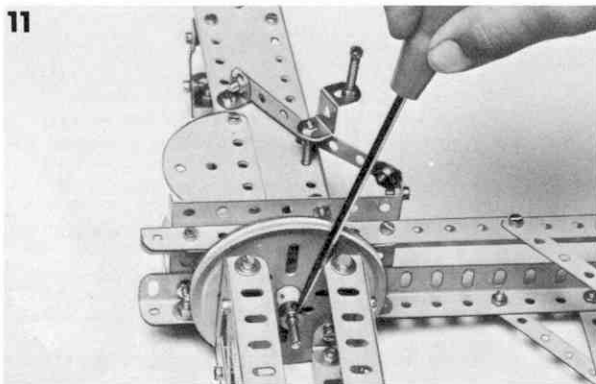
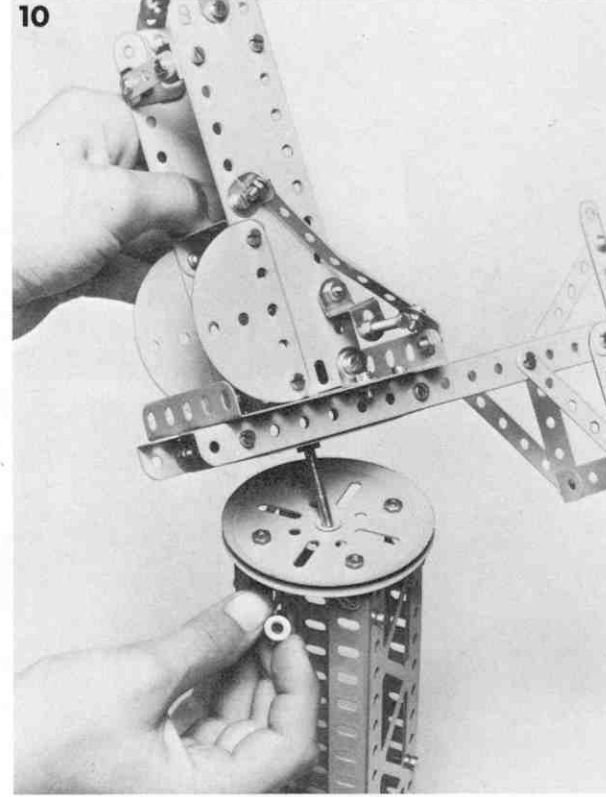
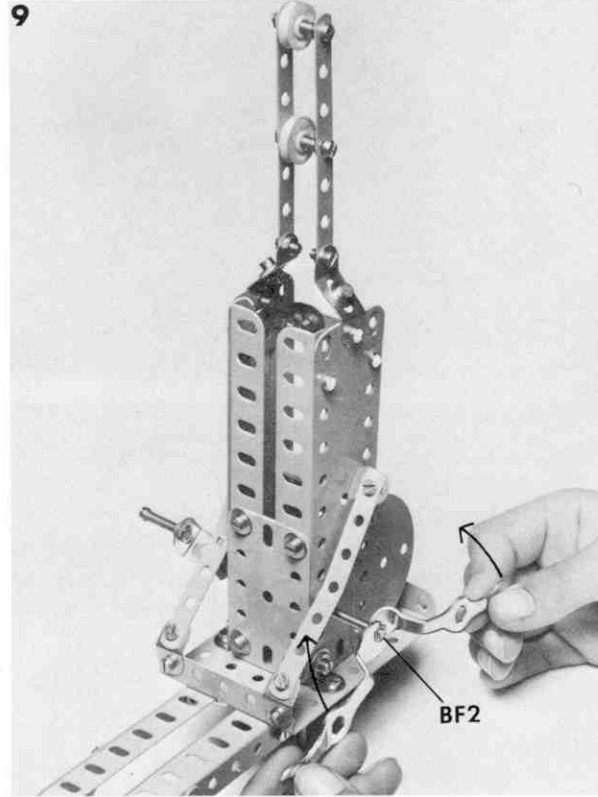
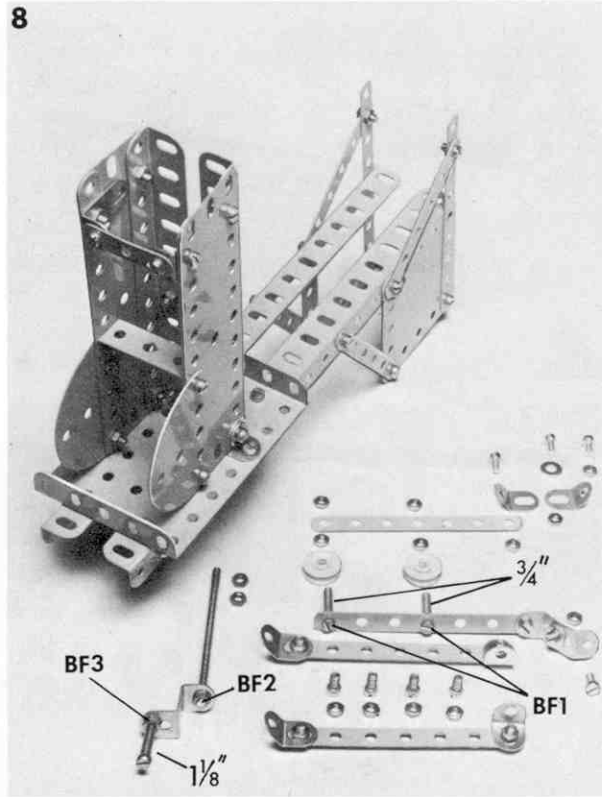
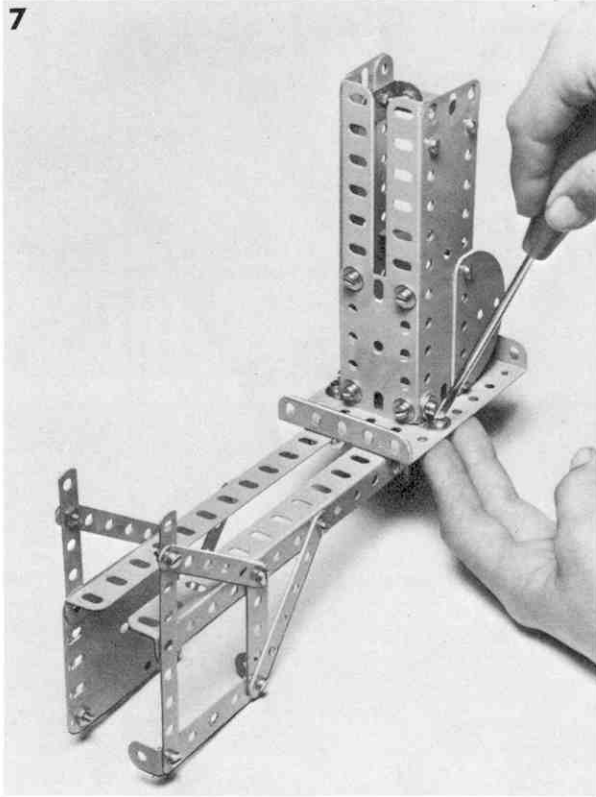


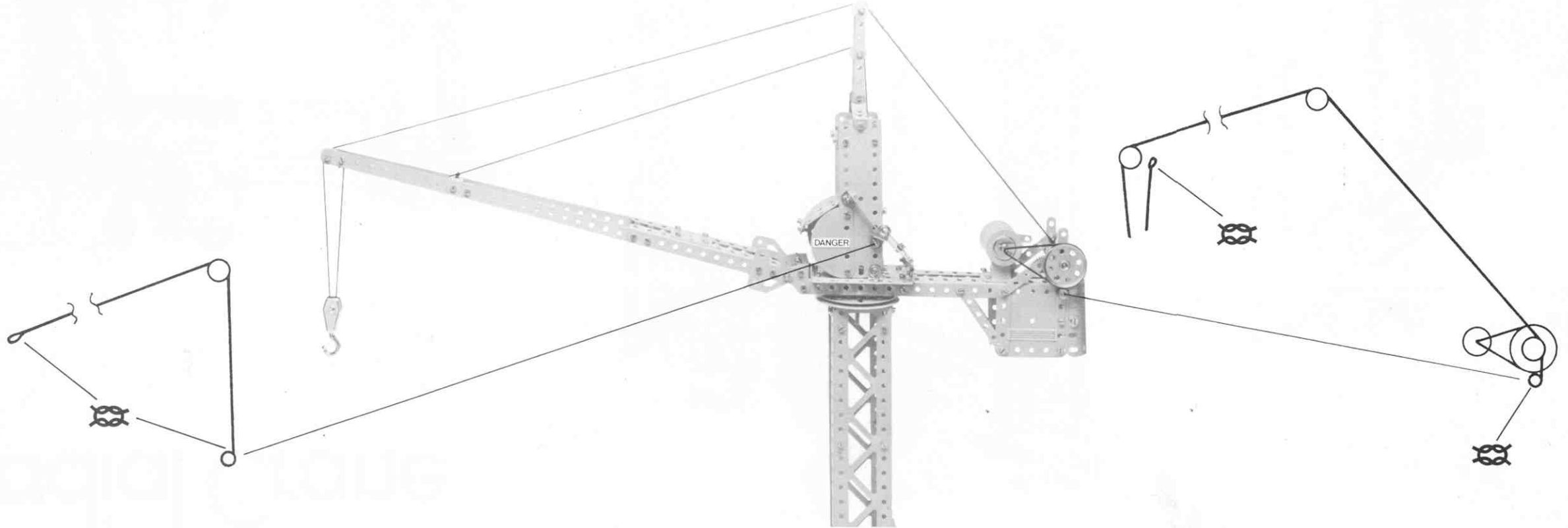
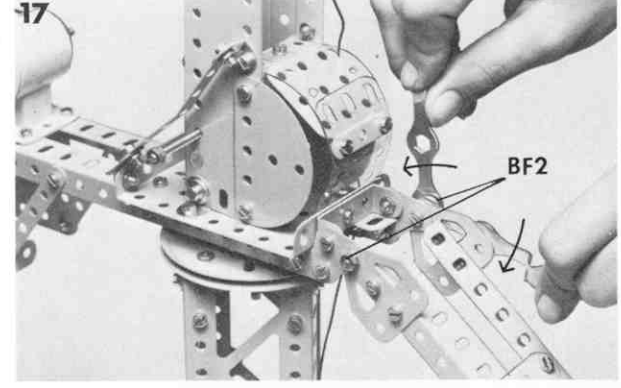
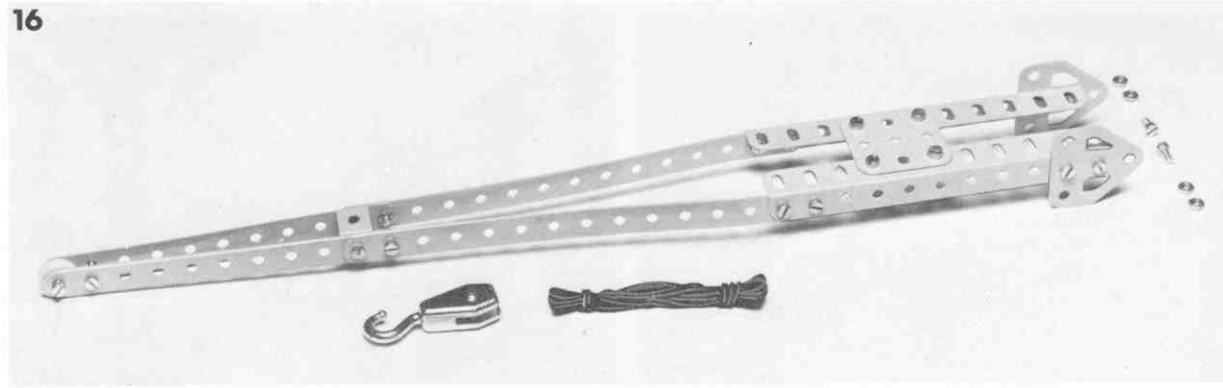
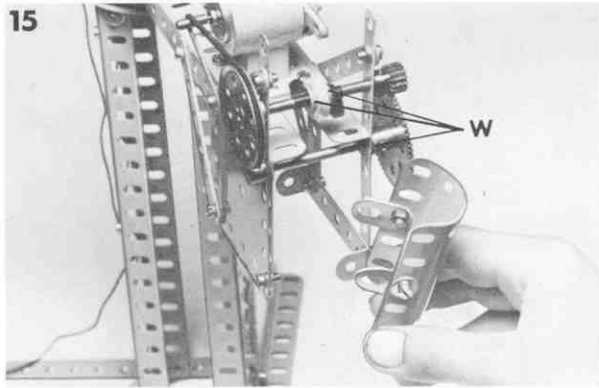


Tower Crane



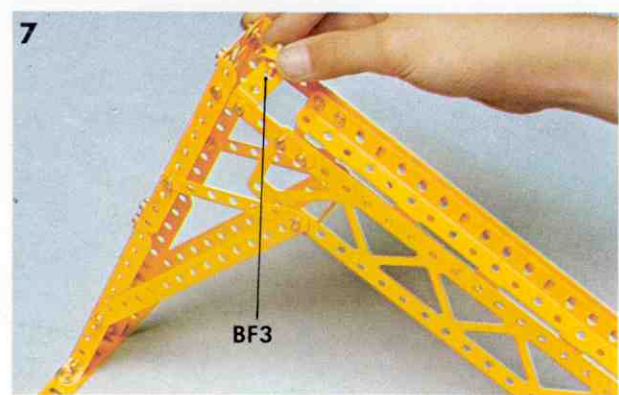
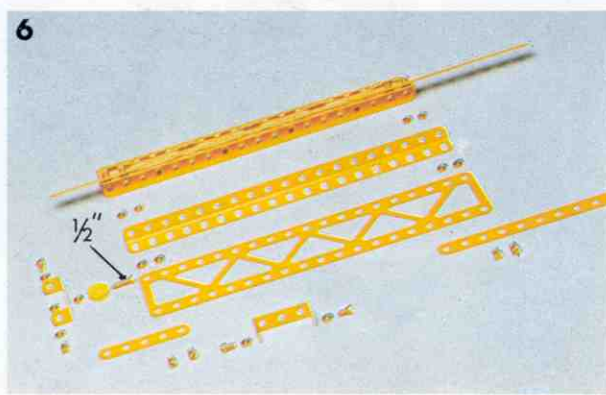
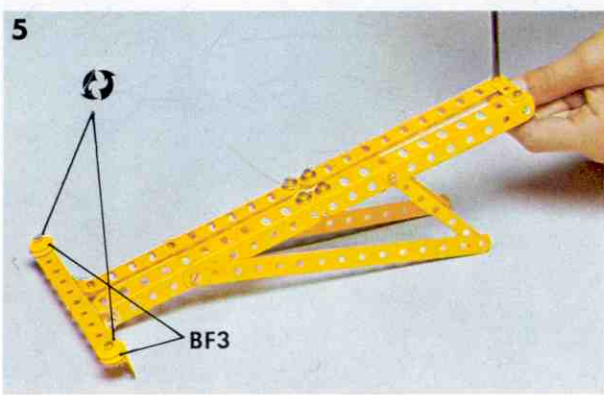
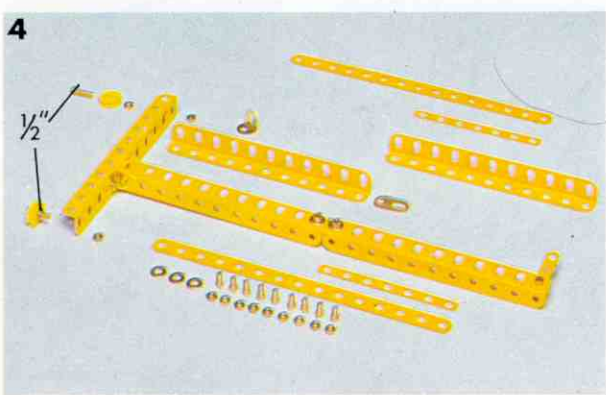
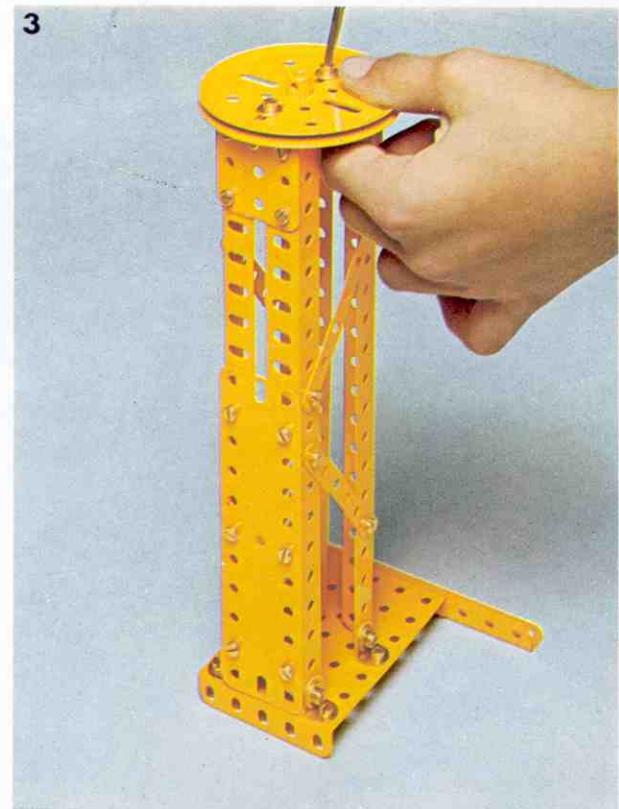
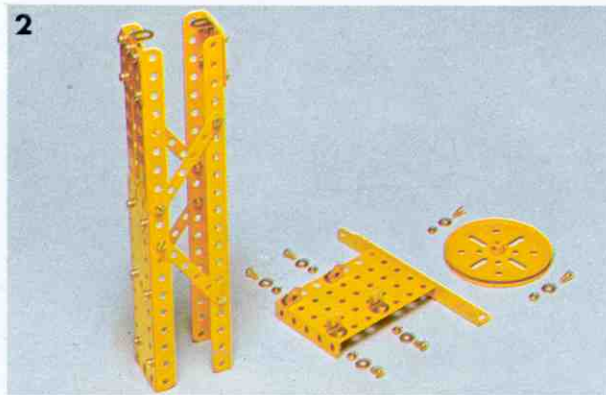
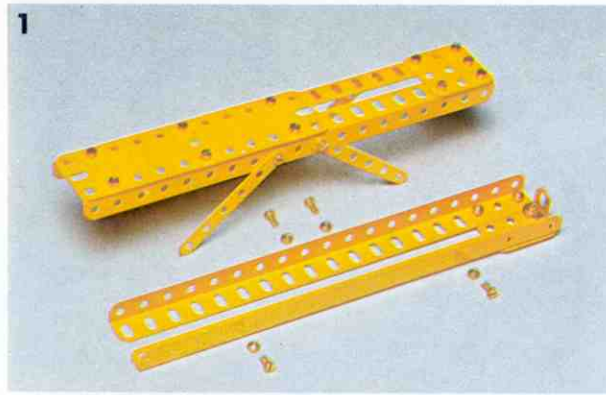
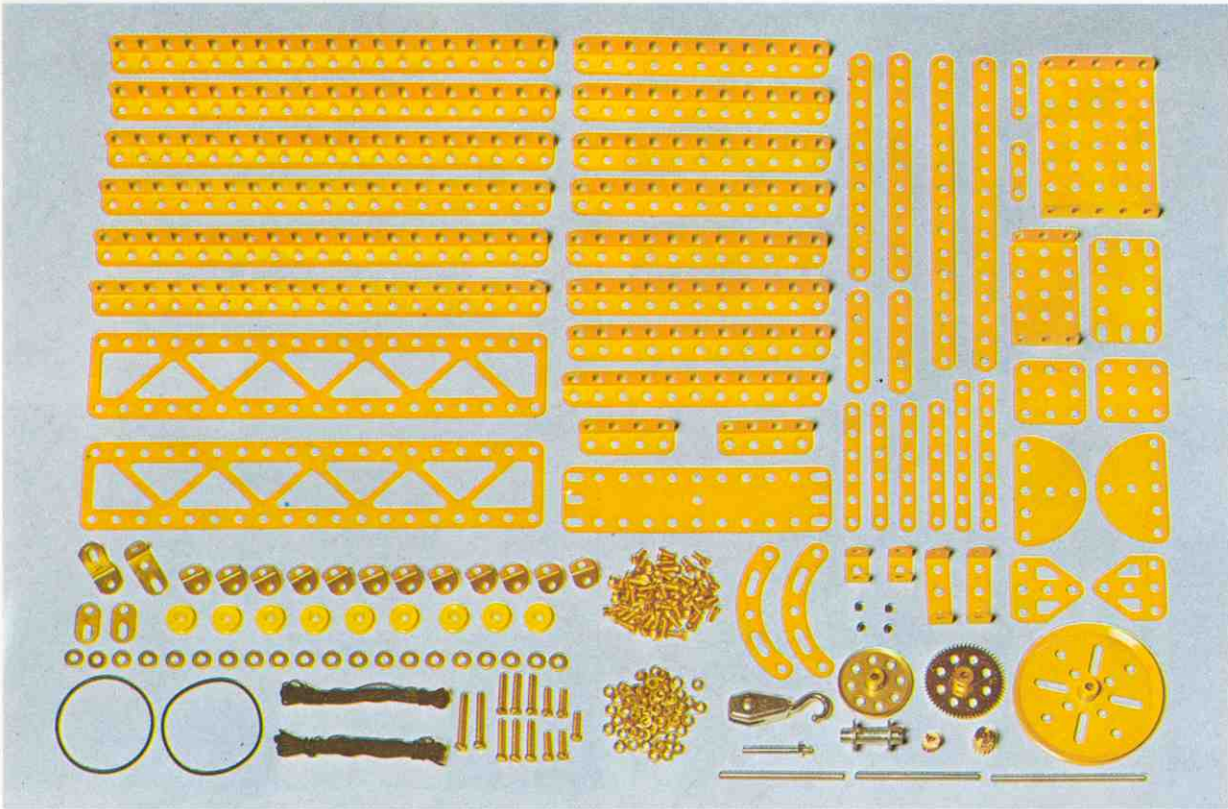


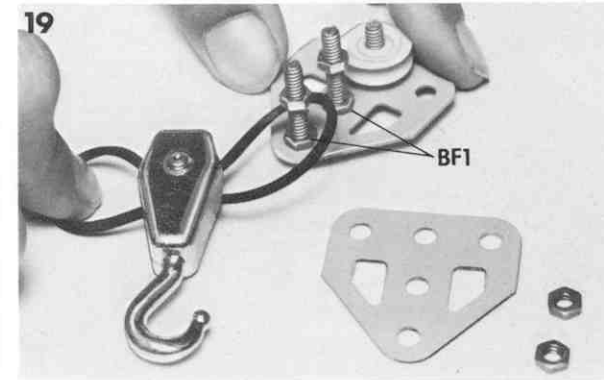
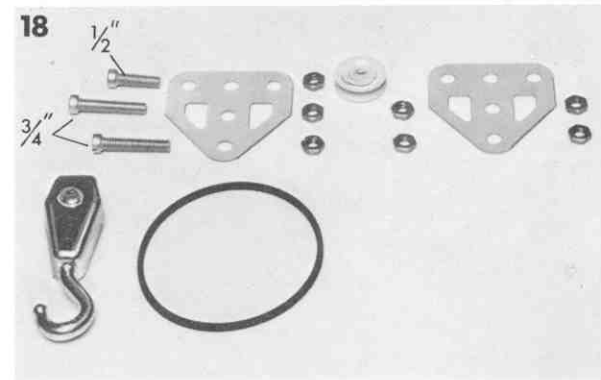
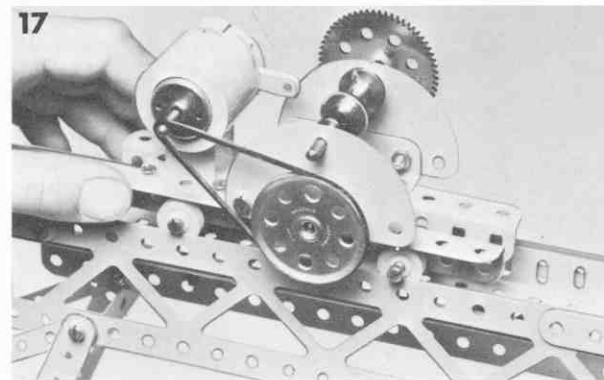
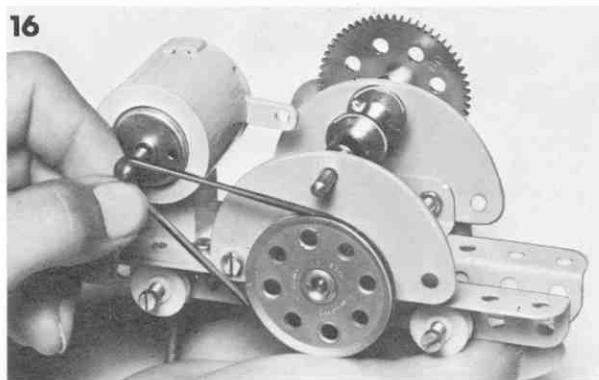
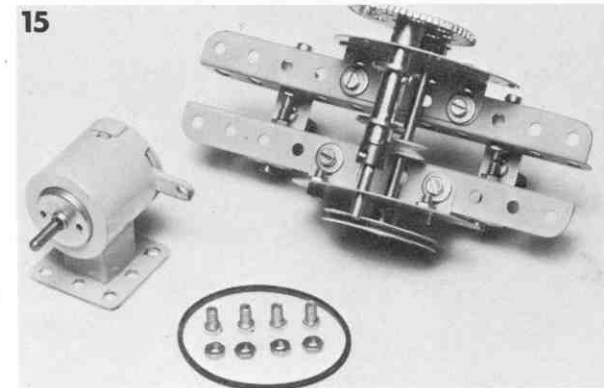
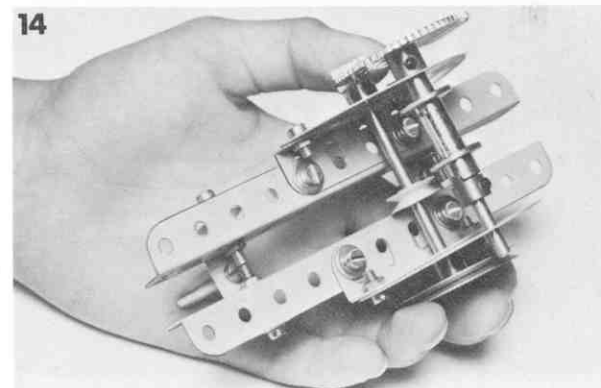
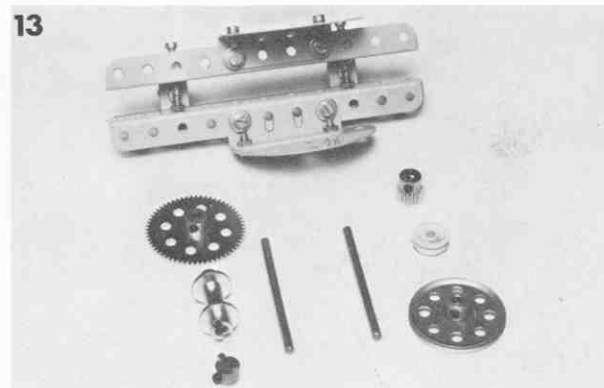
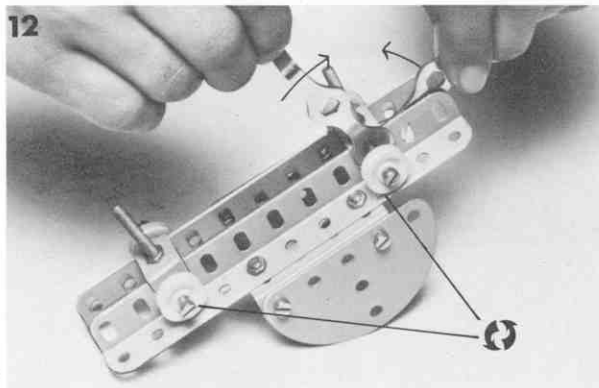
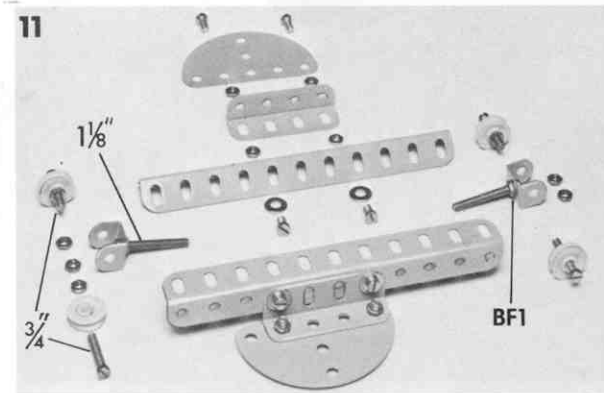
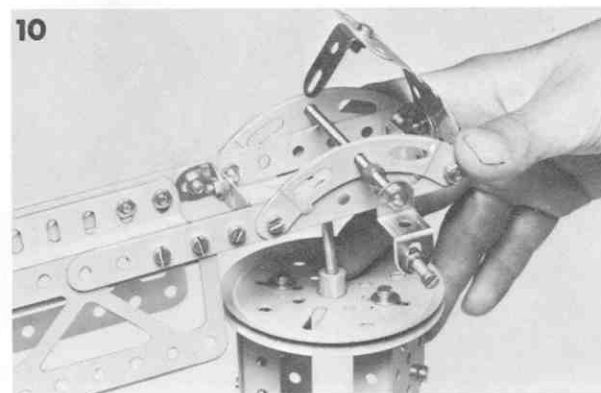
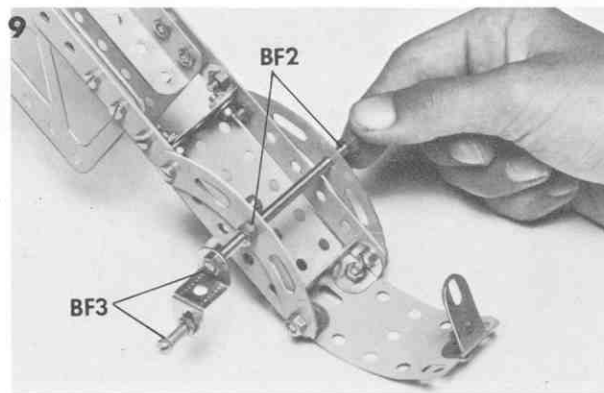
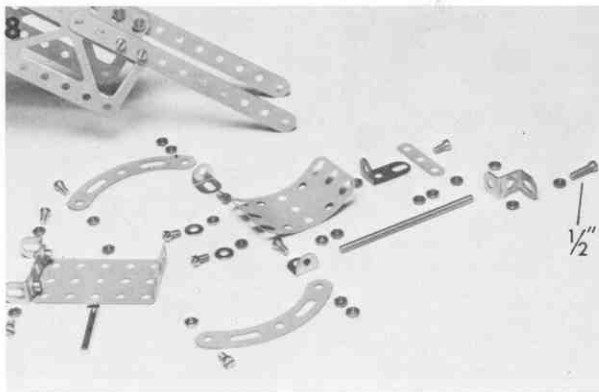


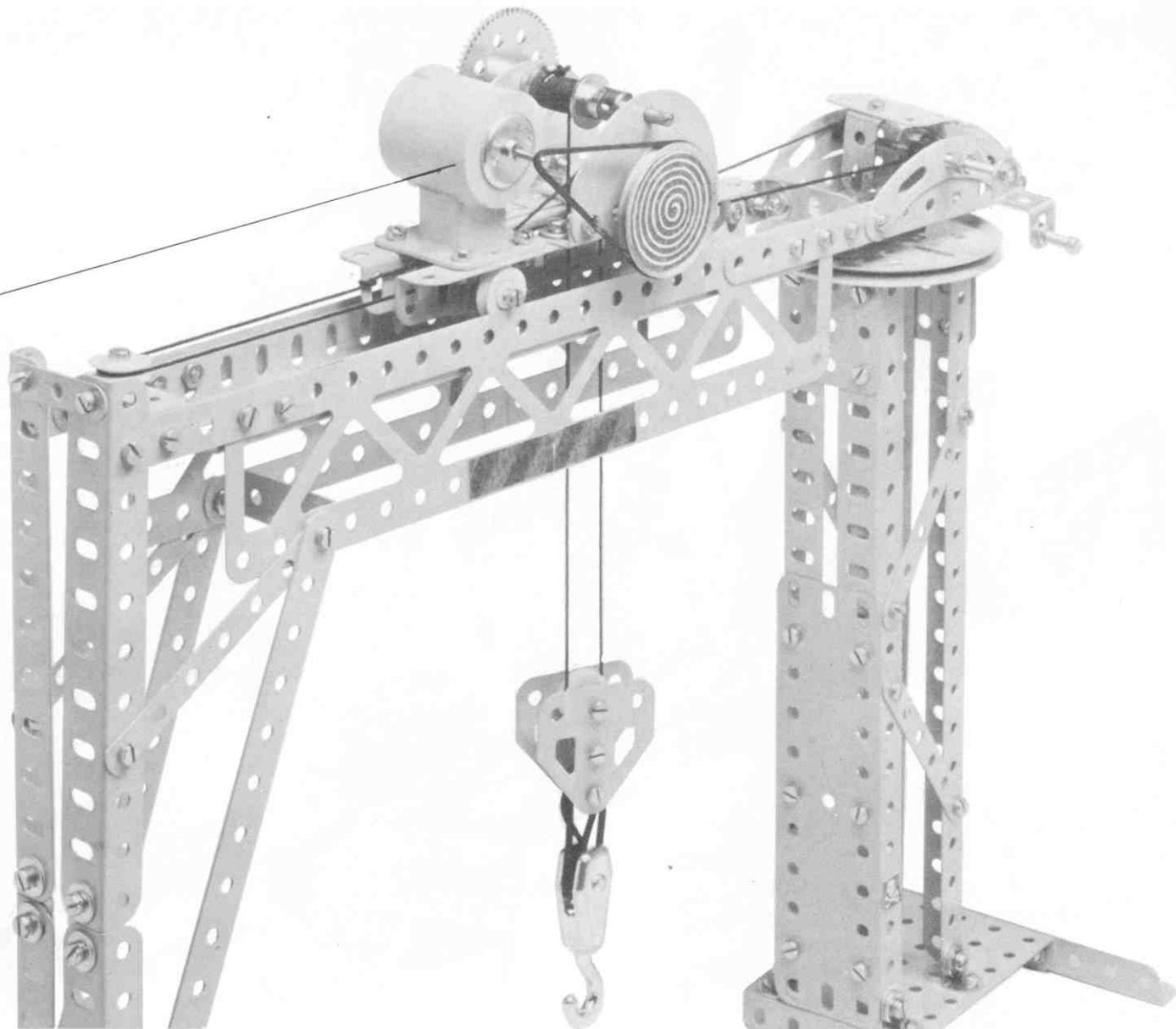
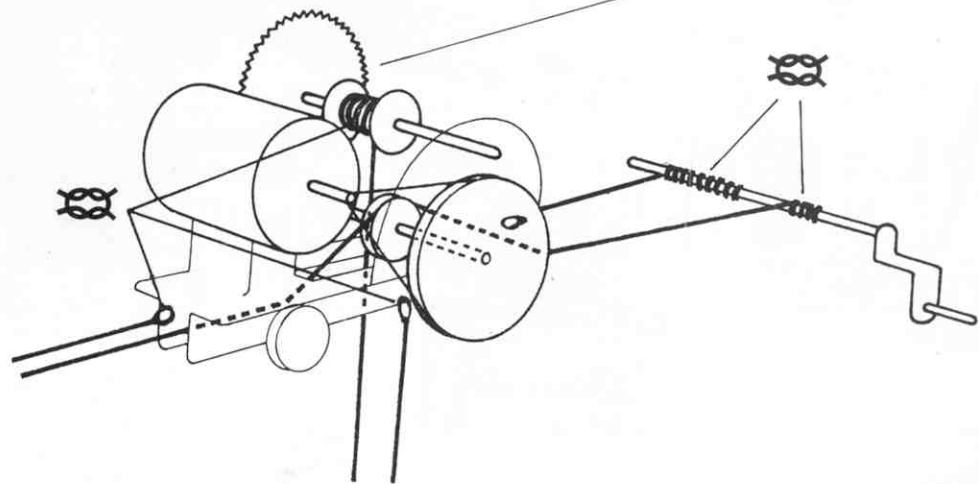
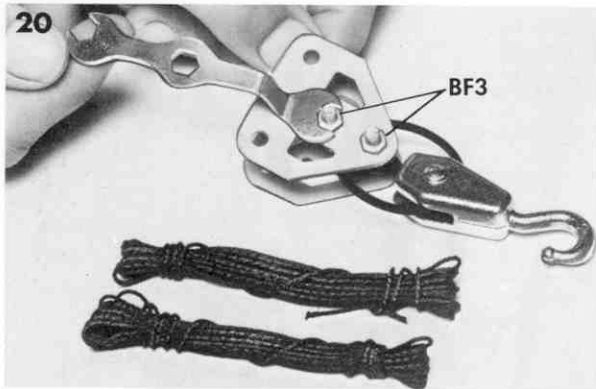


Radial Crane

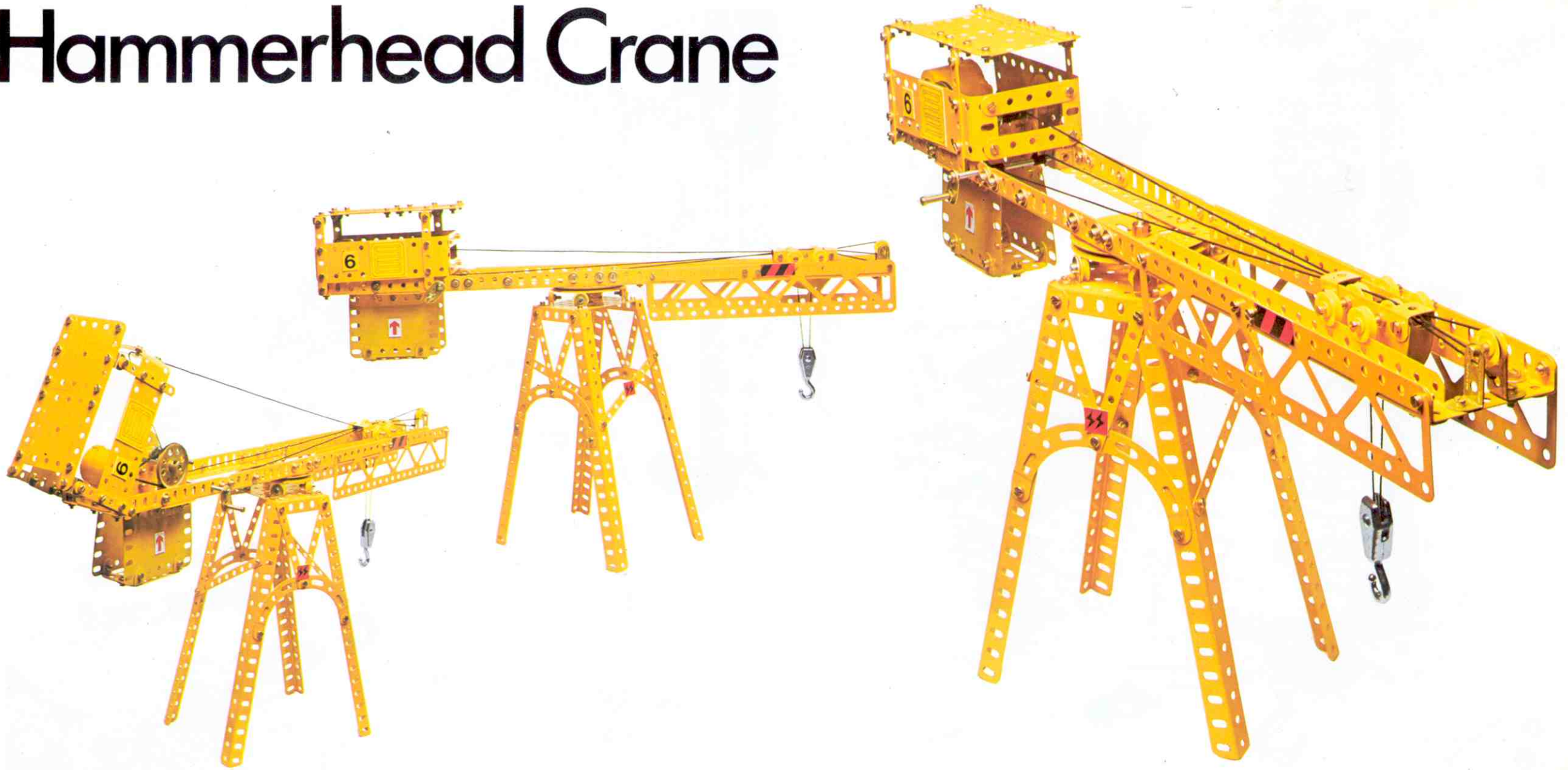


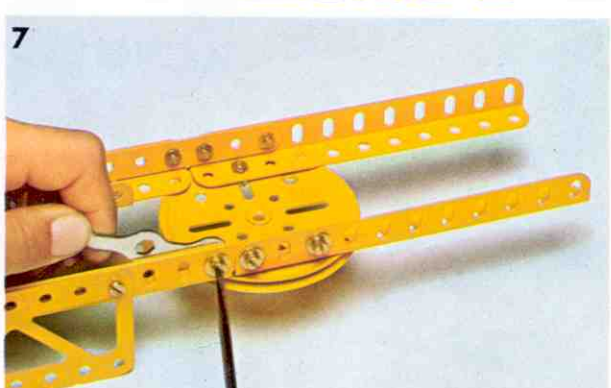
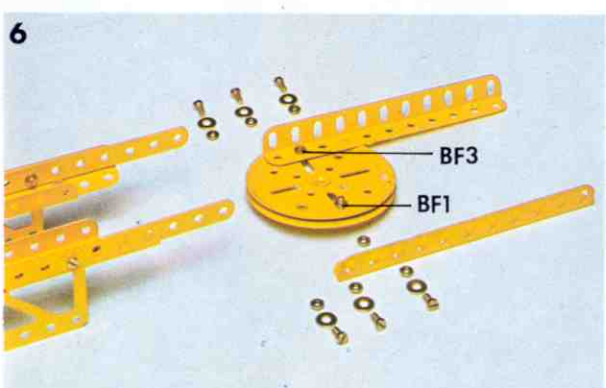
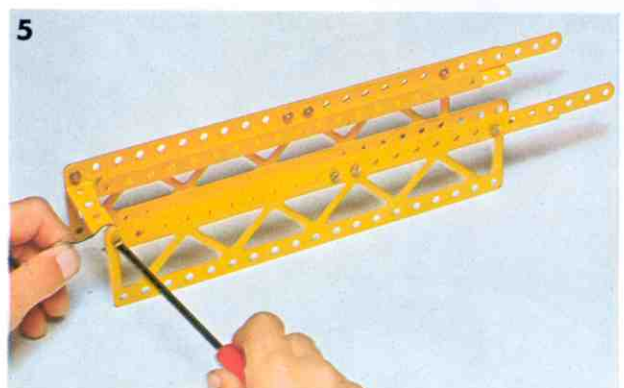
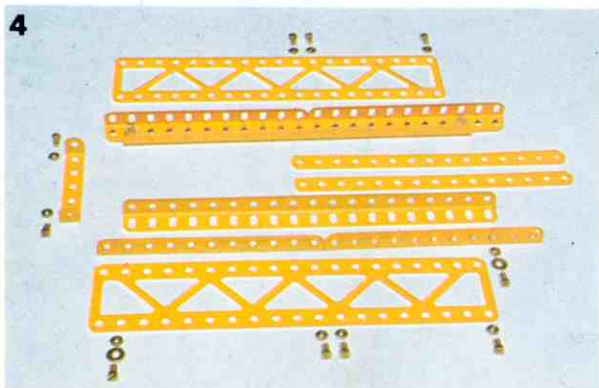
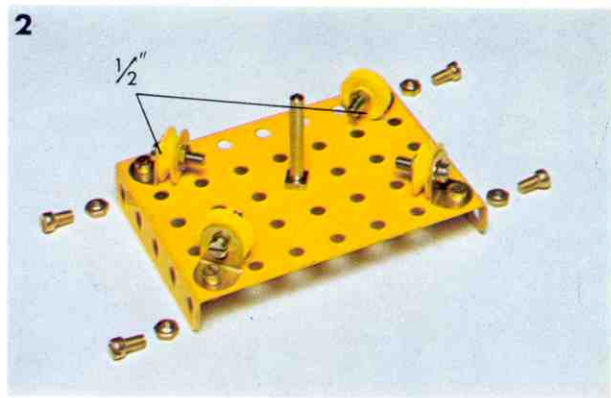
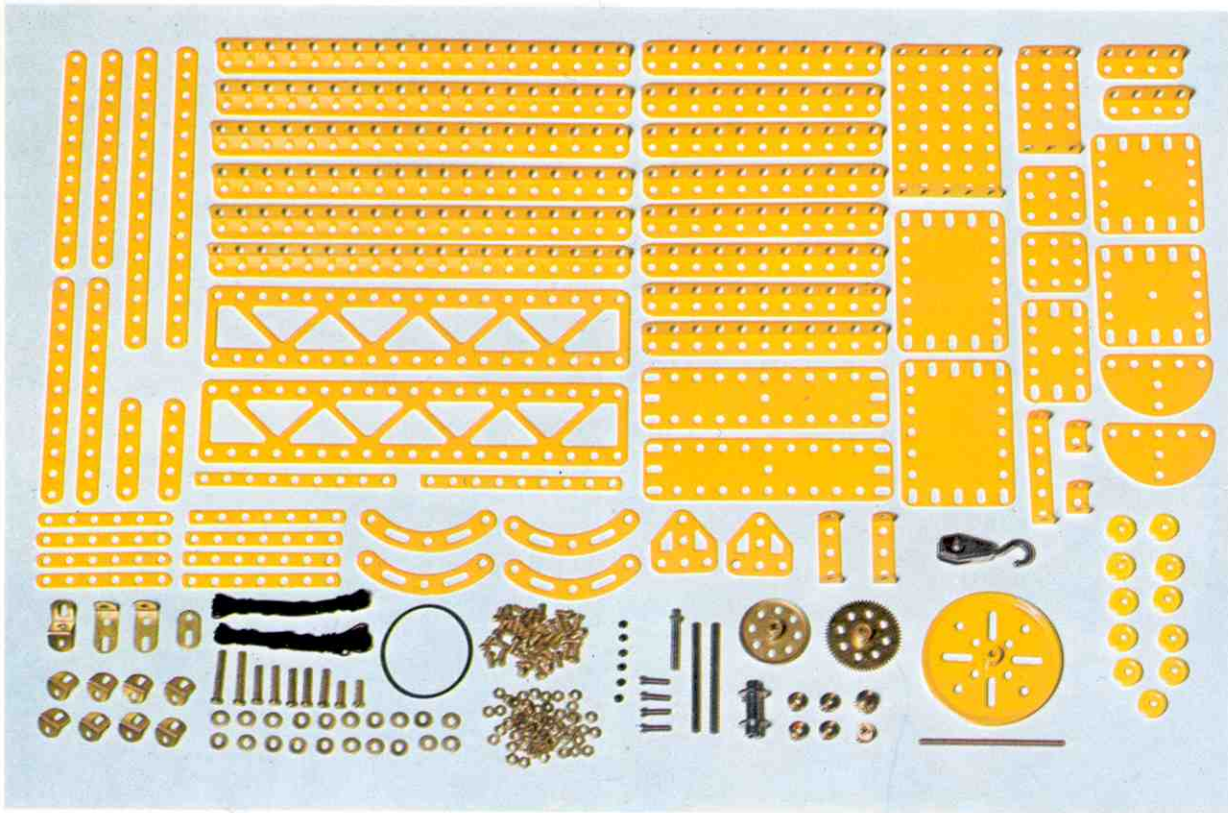


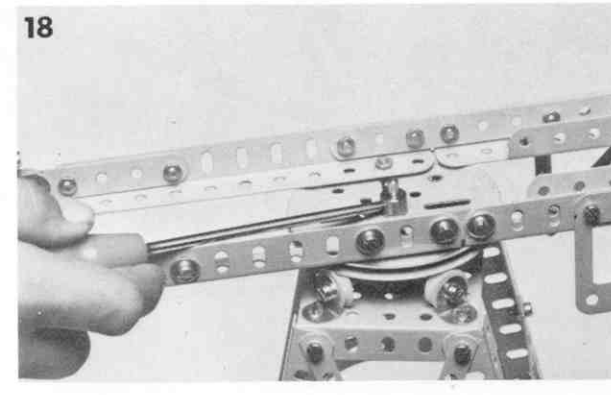
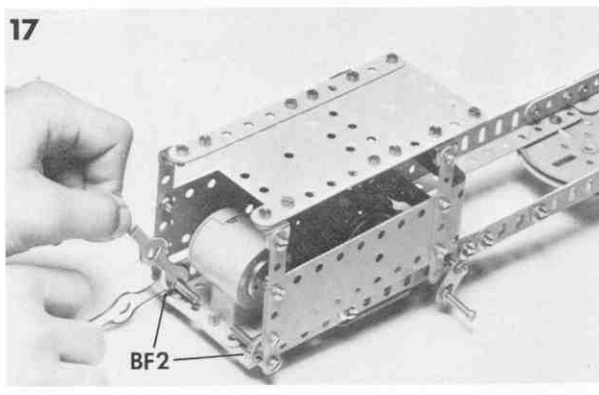
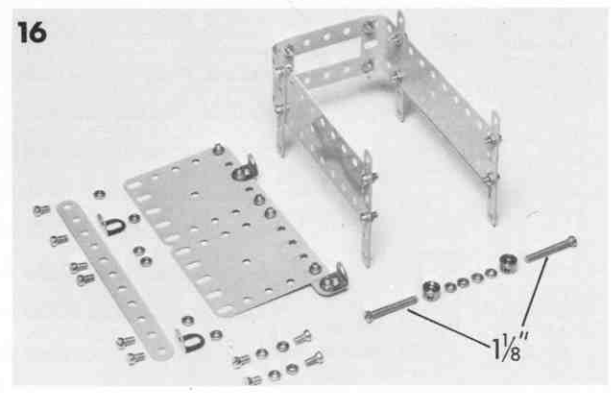
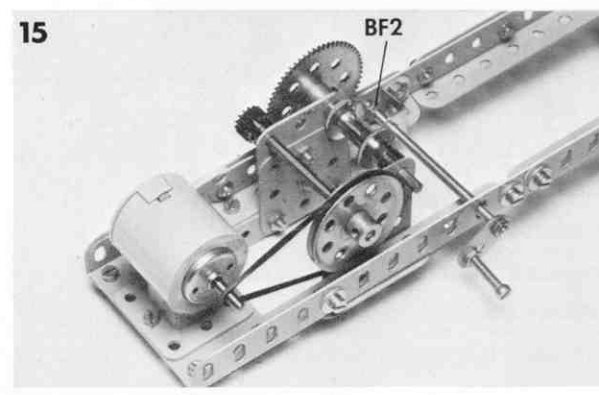
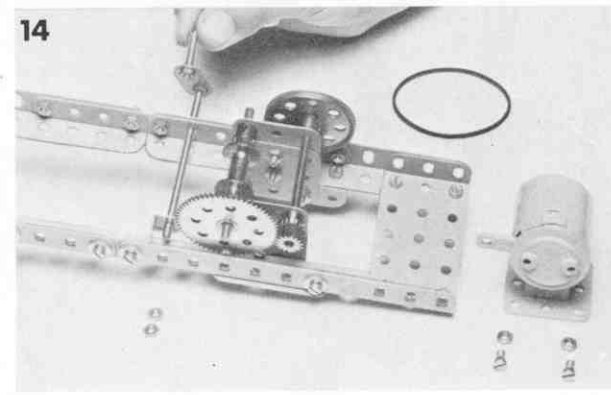
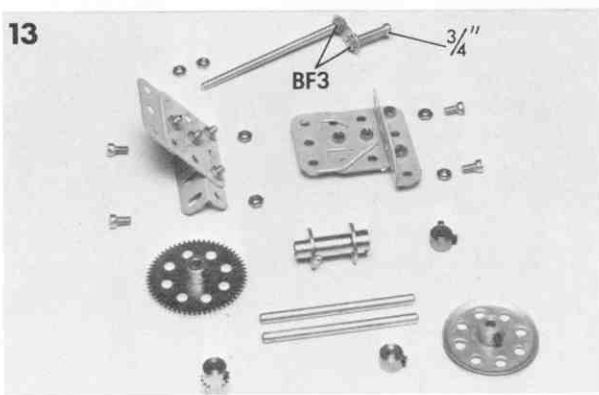
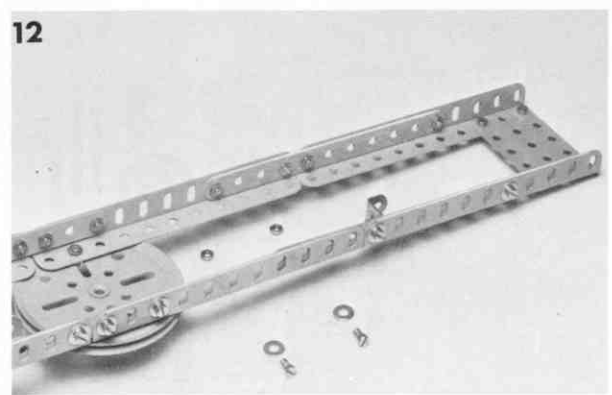
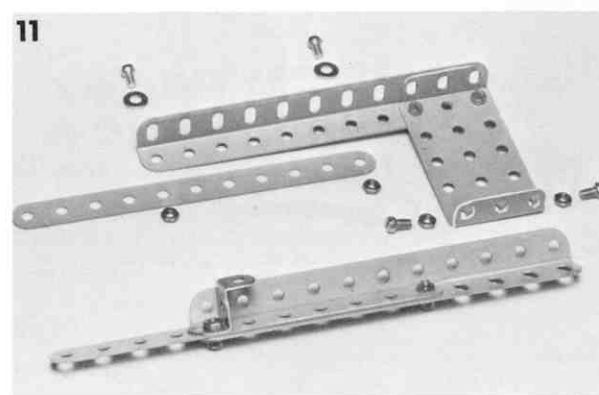
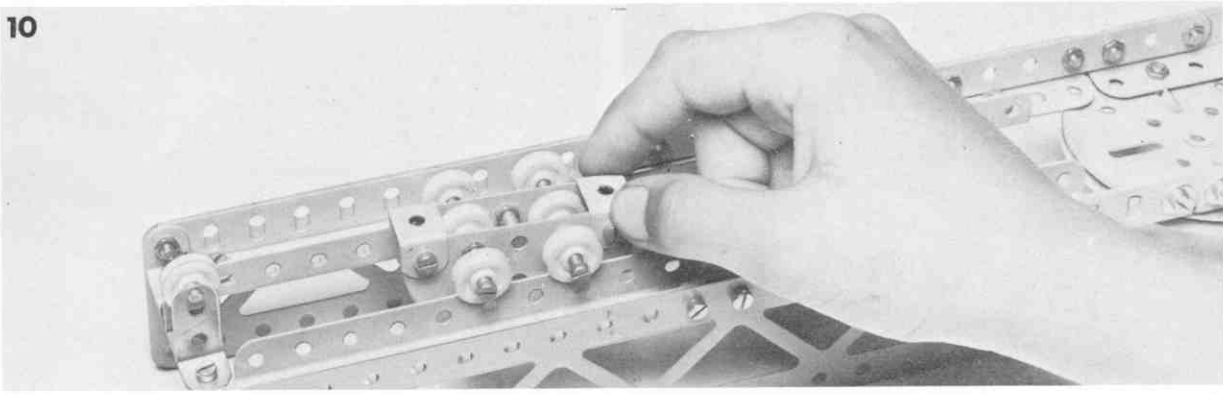
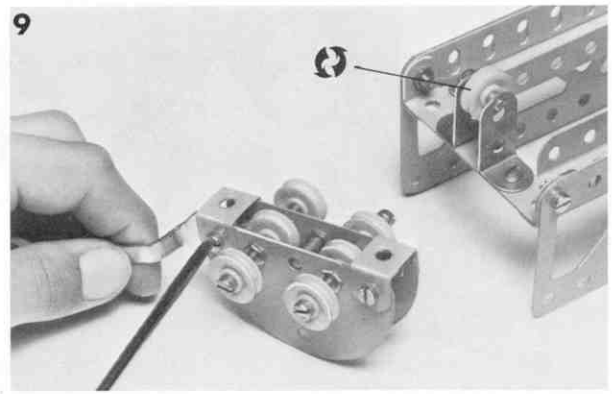
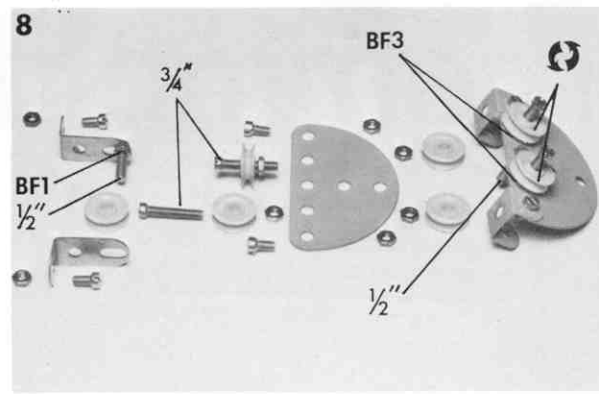


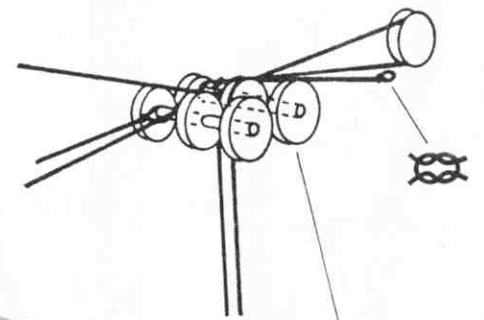
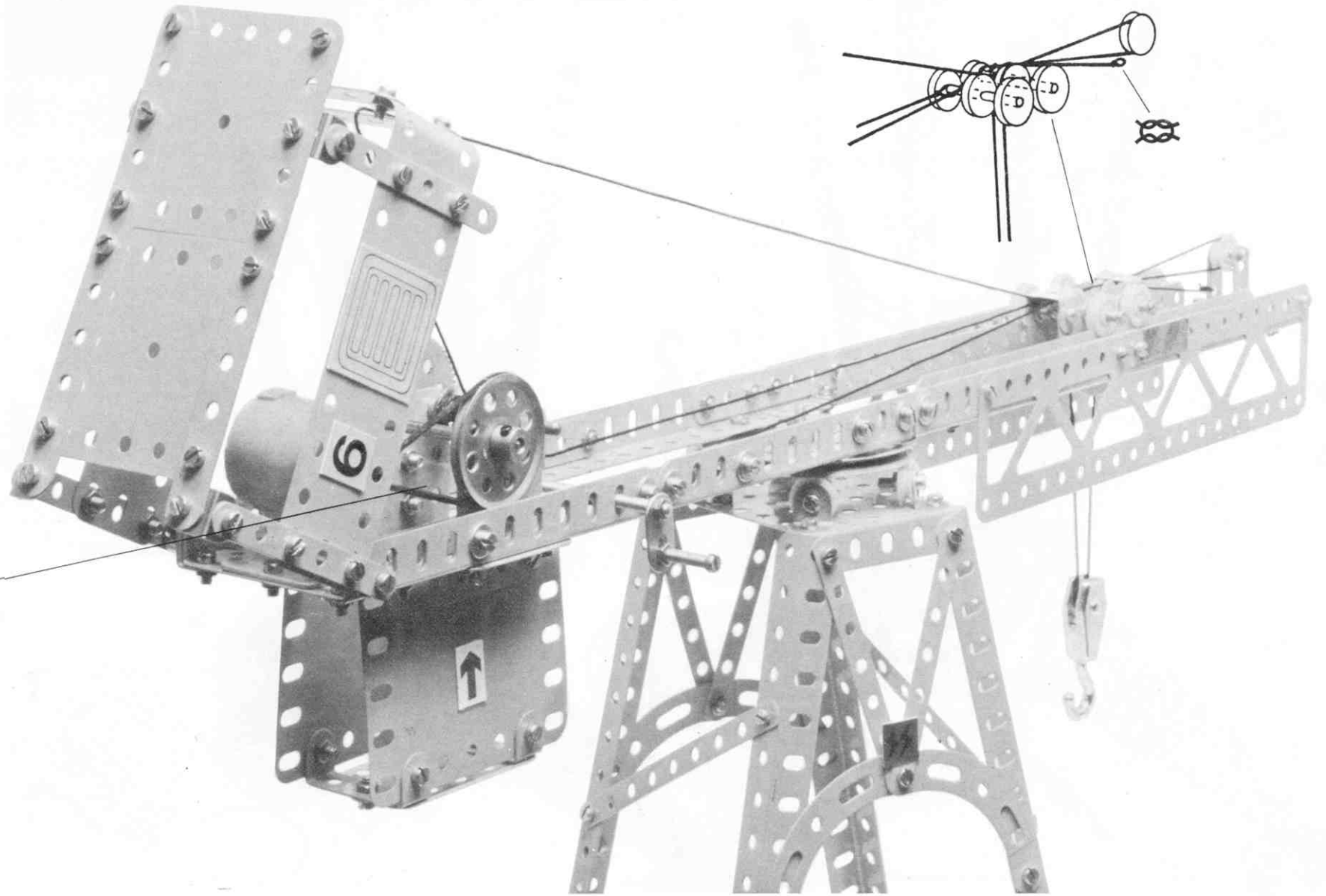
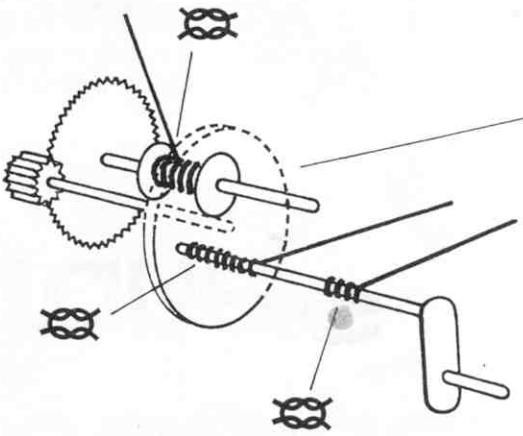
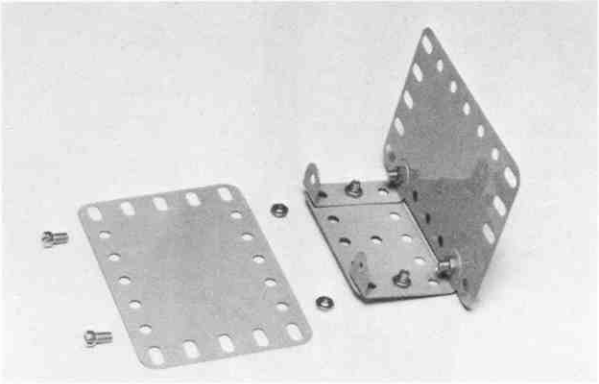


Hammerhead Crane



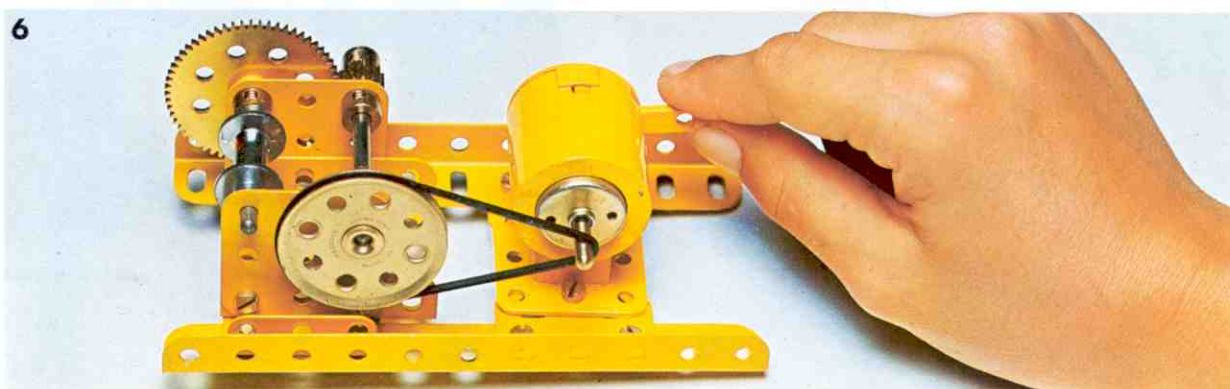
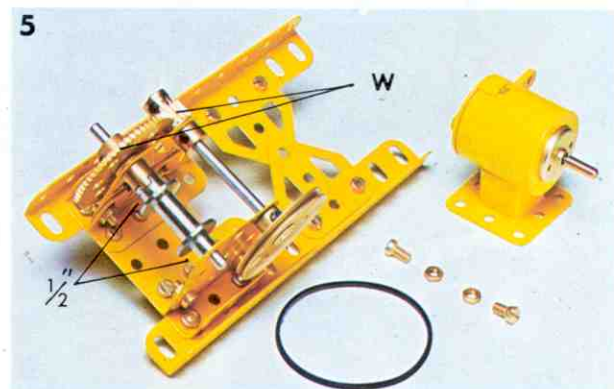
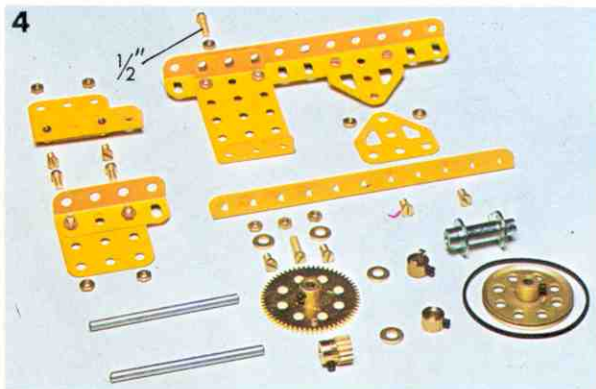
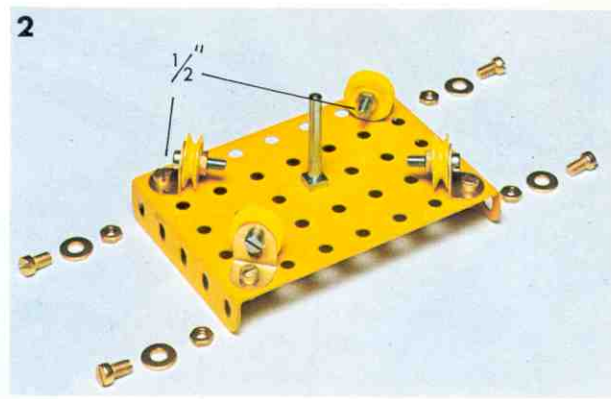
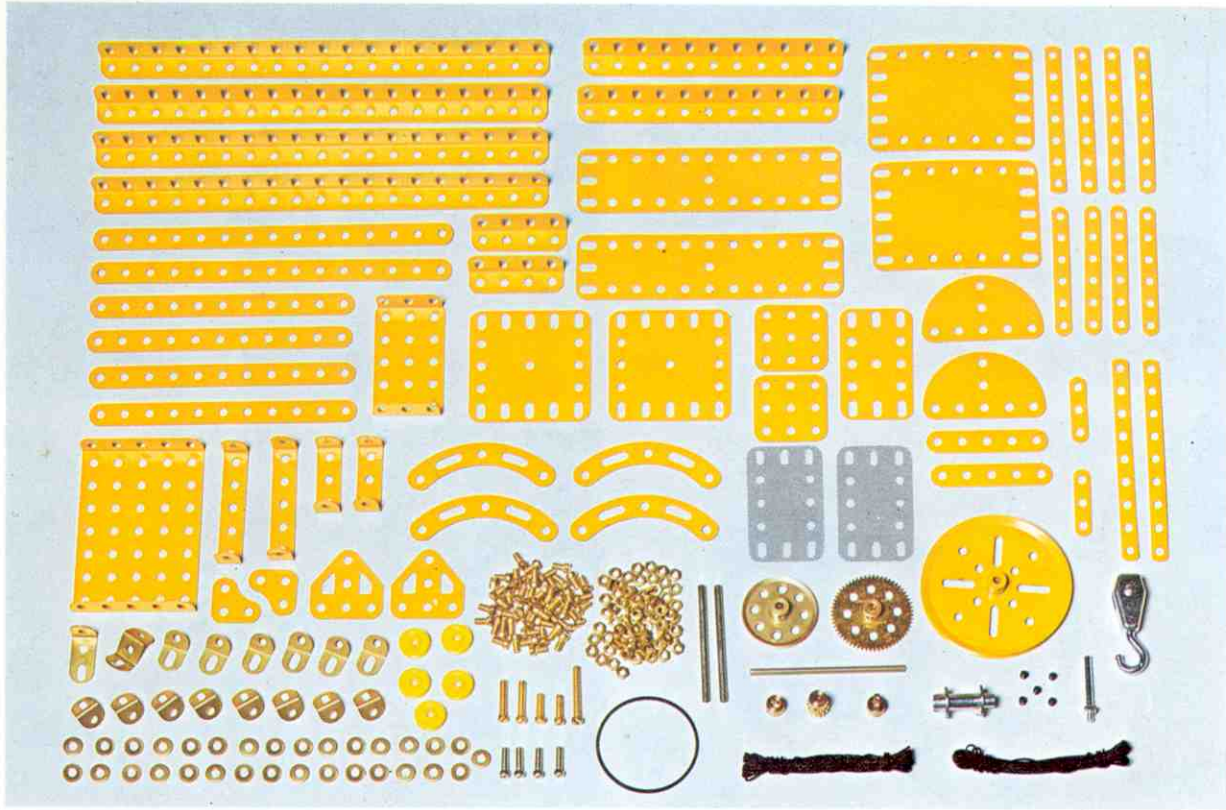


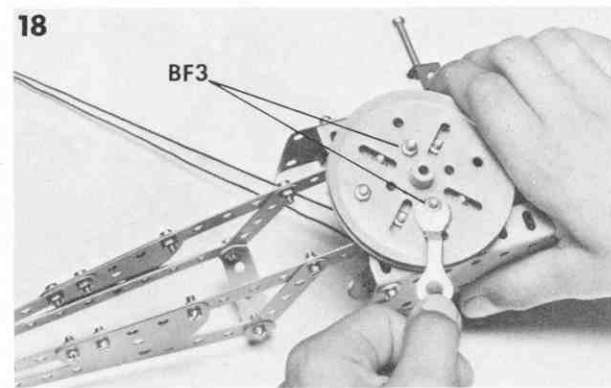
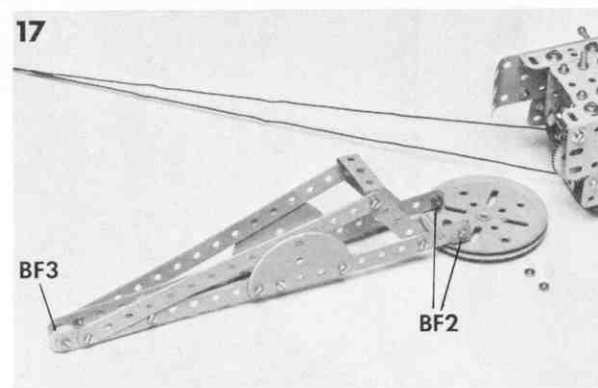
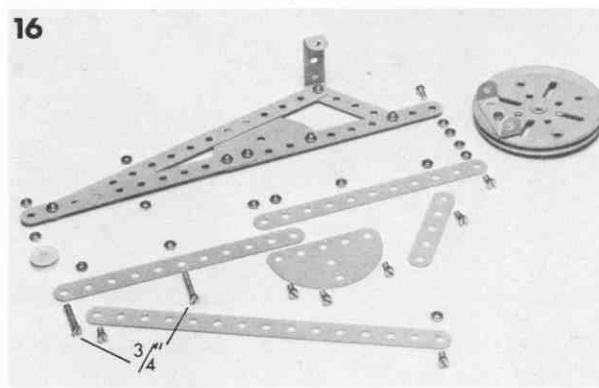
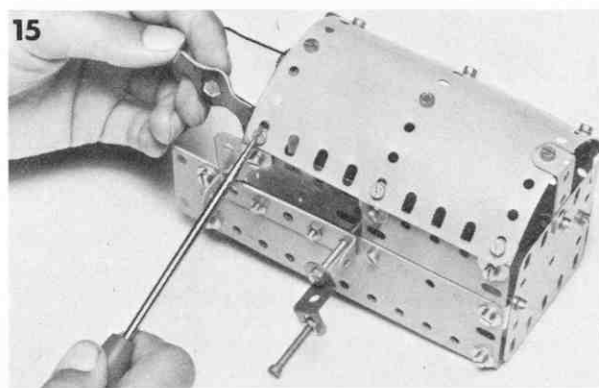
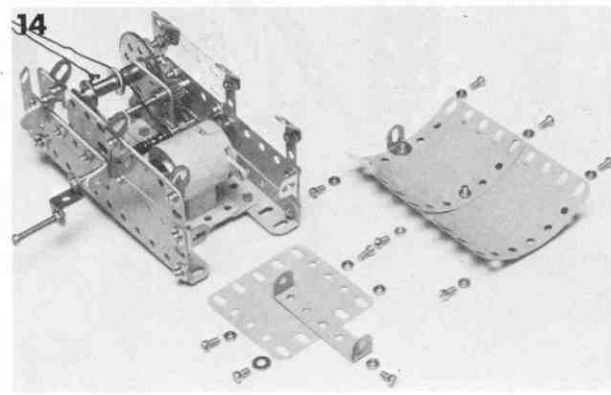
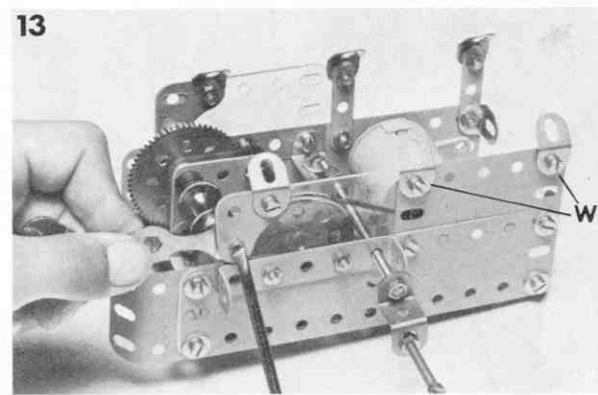
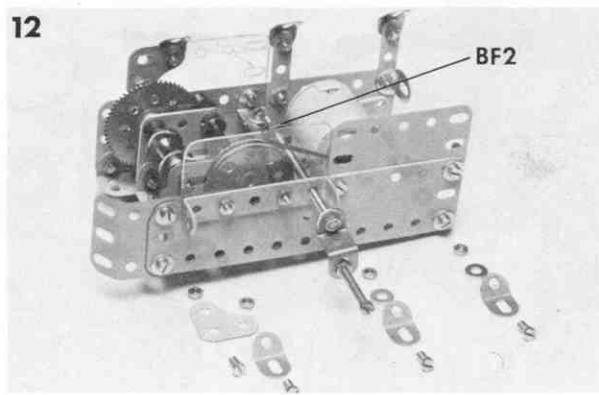
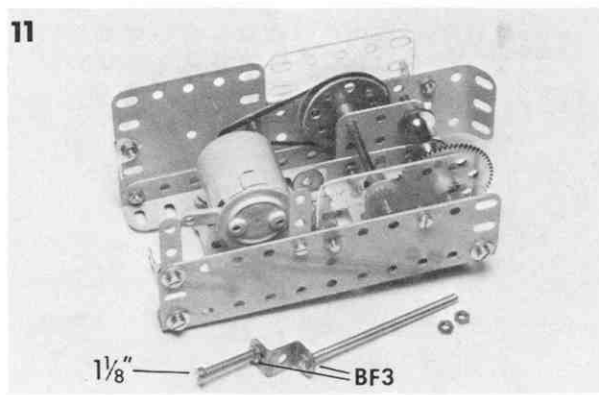
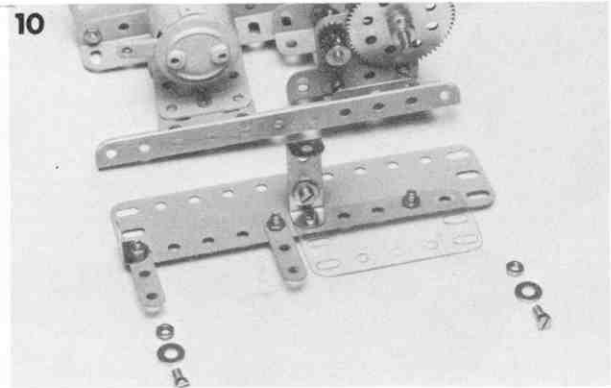
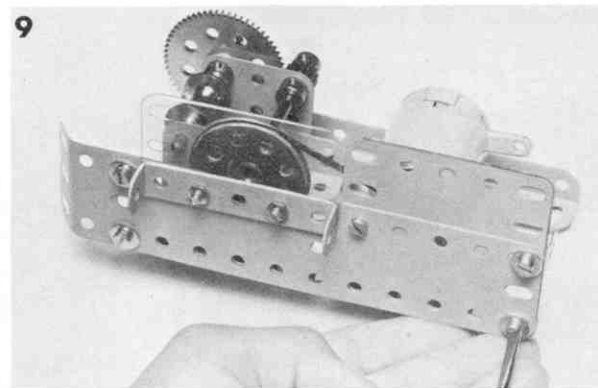
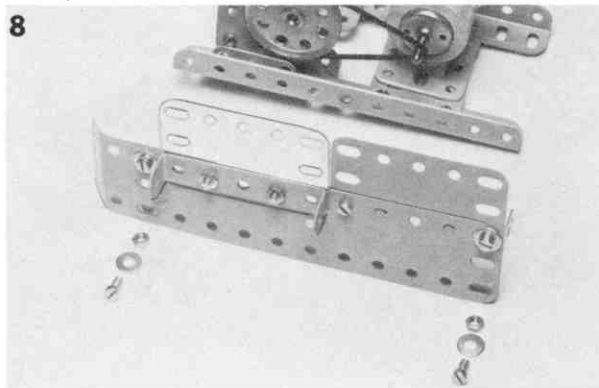
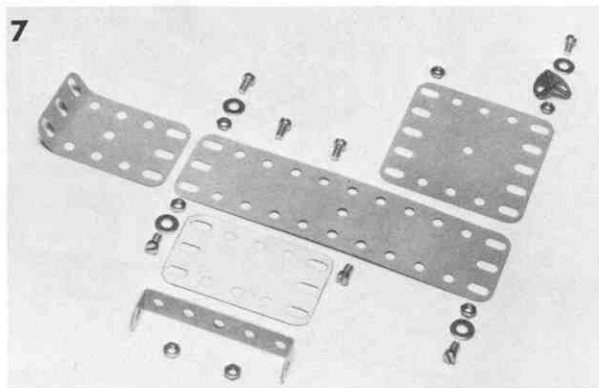


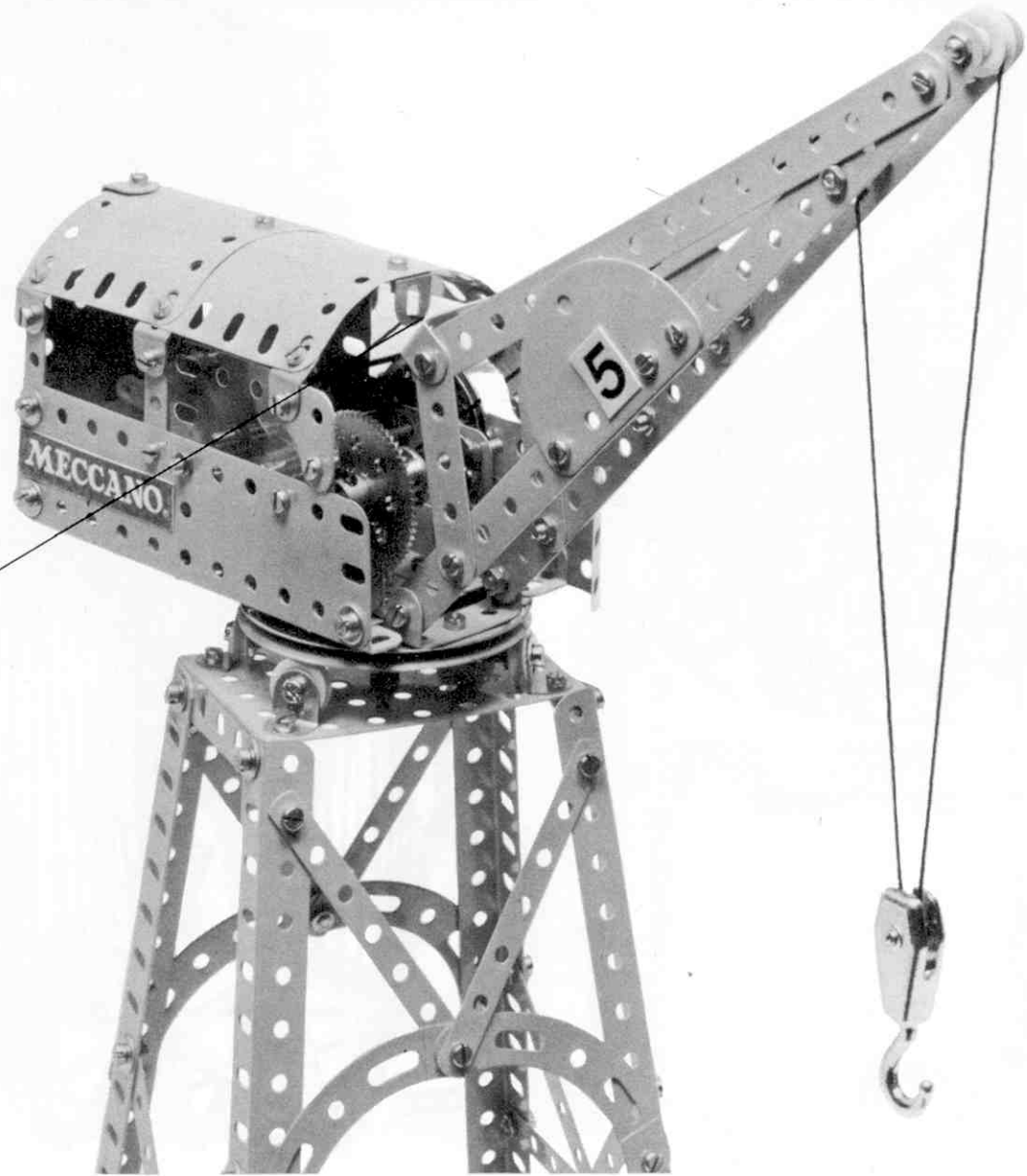
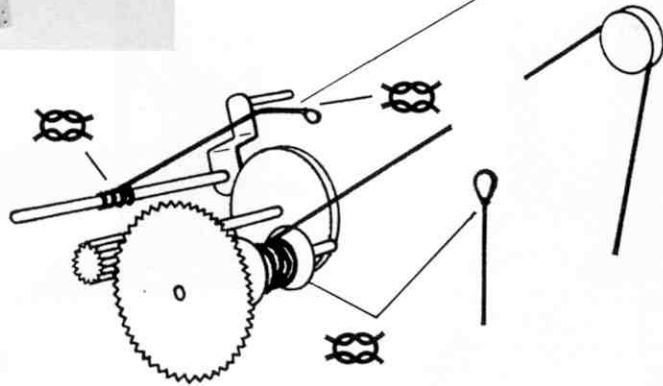
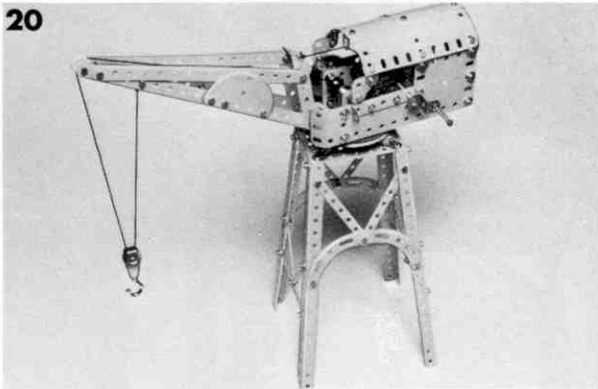
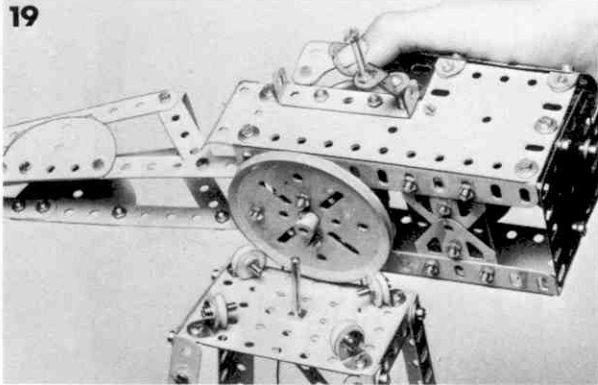


Dockside Crane



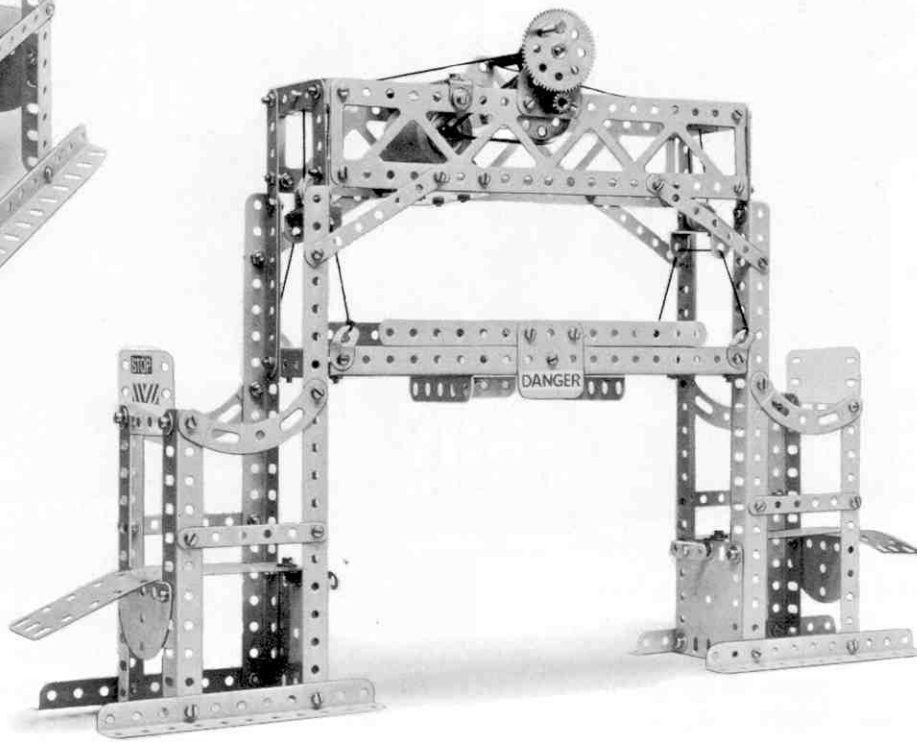
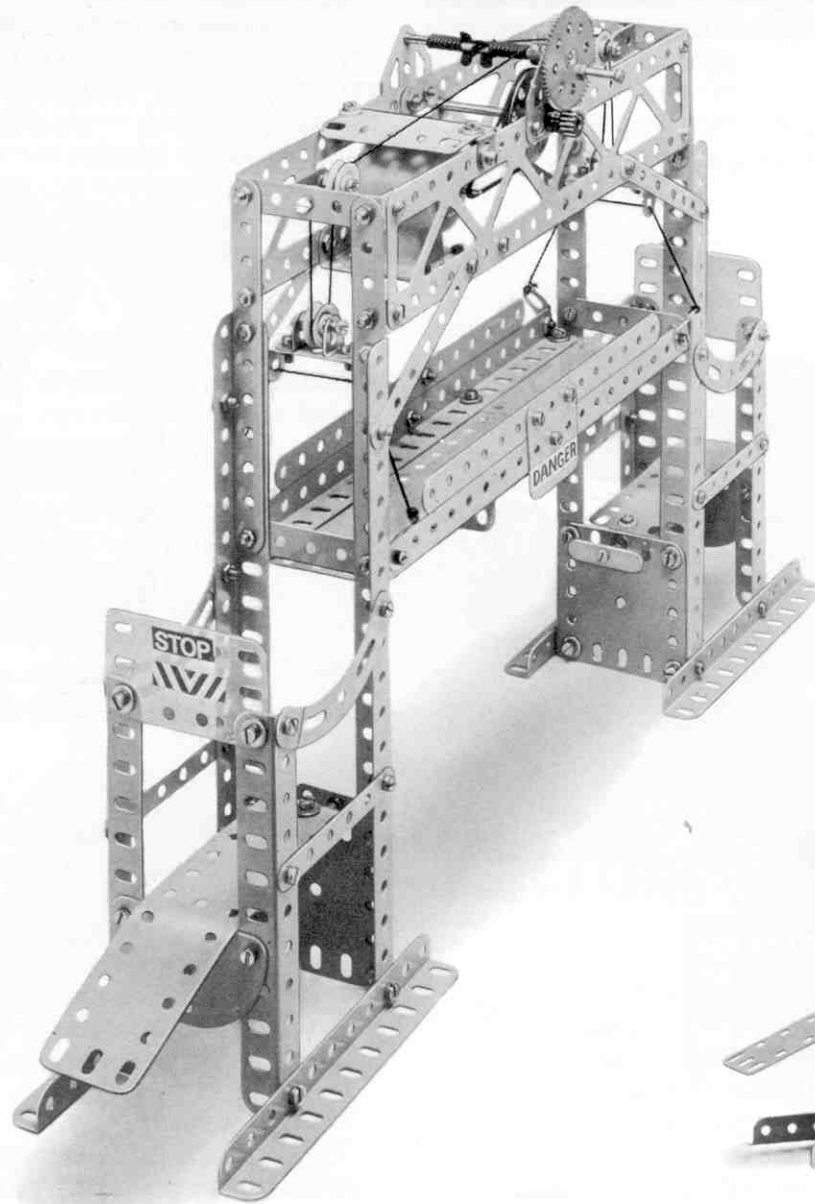
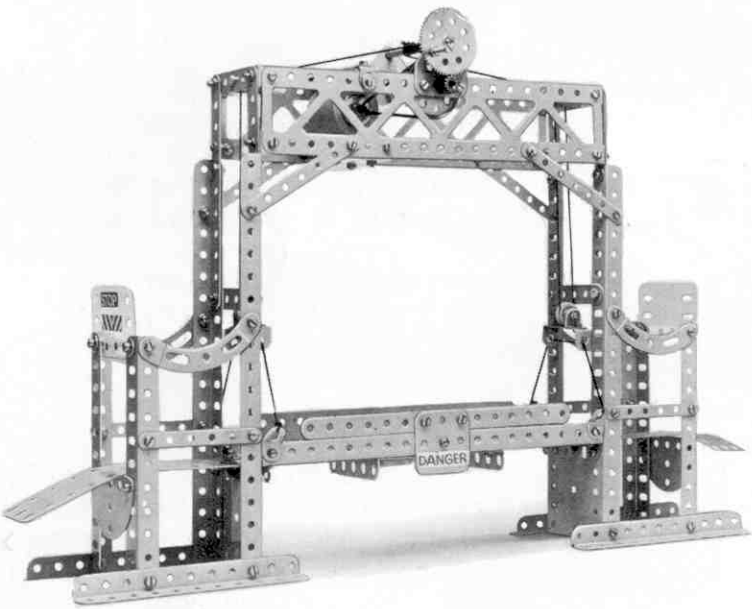


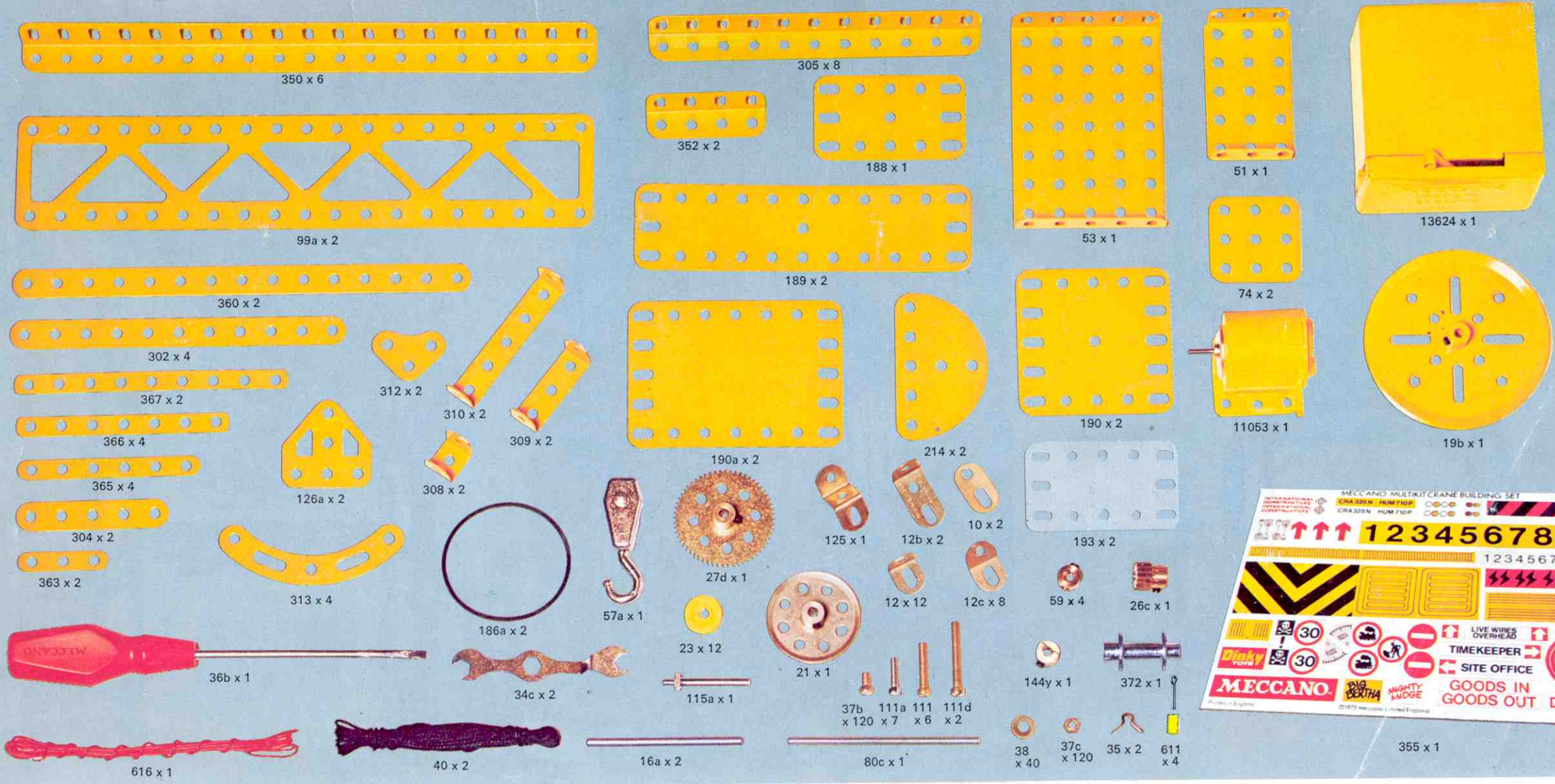




Bridges







Meccano Ltd reserve the right to alter colour and contents of sets without prior notice.