

# MECCANO<sup>®</sup> HIGHWAY MULTIKIT<sup>®</sup> BOOK OF MODELS





## Please read this carefully before you start building.

In this book you will find all the instructions you need to build Meccano models. There are very clear colour pictures which show you each step in the building of every model.

Perhaps you have never used Meccano before. In that case, look carefully at the section below. It tells you all about the basic methods of building with Meccano.

Remember, all the models in this book are only suggestions. With practice, you'll find you can design and build your own and, if you need extra parts, you can buy Meccano spare parts from your Meccano shop.

So off you go. And have fun.

## How to use Meccano.

With just a little practice, Meccano is very easy to use. The only tools you need are a screwdriver and two spanners.

Perhaps you've used your father's tools before, but in case you haven't, this is how they work.

The screwdriver is used to turn Bolts. You simply put the blade of the screwdriver into the slot in the top of the Bolt and turn the screwdriver clockwise (to the right). To undo a Bolt, you turn the screwdriver the other way.

Nuts go on the other end of Bolts to make a tight joint. Start by turning the Nut on the thread of the Bolt with your fingers. Then use the screwdriver to tighten the Bolt. If the Nut and Bolt turn together you can hold the Nut with the spanner while you tighten the Bolt.

There are two spanners in the Multikit so that you can make a locknut. You will need a locknut when you want a piece to move freely between a Nut and Bolt. To make one, you just thread two Nuts onto the end of a Bolt and tighten them against each other.

When bending Flexible Plates form them over a round pencil (or something like it). Hold the pencil against the underneath of the Flexible Plate *between the rows of holes*. Place your fingers on top of the Plate and press it over the pencil. It's rather like folding a piece of paper.

When you're building Meccano models, you will sometimes need certain standard joints. These are called *Basic Constructions* and each one is identified by a number.

It's a good idea to practise these joints, because when you know how to make them, you'll build your Multikit models with no trouble at all.

Numbers BC3 and BC4 are not needed to build the models in this book. They are included because you will probably need them when you

start building models of your own design.

**BC1** This is one way of joining two Strips together so that they can move. It's one example of a locknut. You push the Bolt through the Strips. Thread one Nut onto the Bolt but don't tighten it so much that the Strips cannot move. Then thread on the second Nut and tighten it against the first Nut. You will have to hold the first Nut still with your other spanner.

**BC2** This is another kind of locknut. Push the Bolt through one of the Strips. 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 the second Strip so that the first Strip moves around the Nuts and the Bolt.

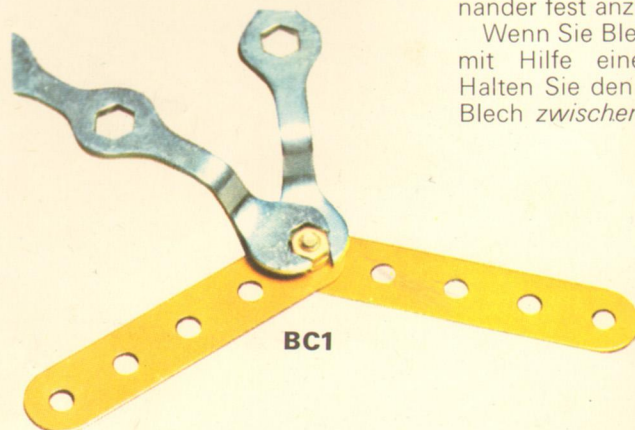
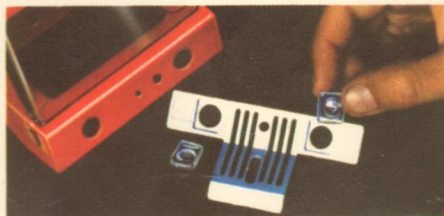
**BC3** This is simply two Strips joined together by a third Strip. Note that four Nuts and Bolts are used to make a strong joint.

**BC4** This is a way of joining two Strips together by using two Nuts and Bolts. (If you only used one, of course, the Strips would be free to move around.)

**BC11** This construction is used to make a pulley assembly for a crane. You use a long Bolt (332) pushed through a Strip (the crane jib), the Pulley (23) and another Strip. Note that a Nut must be placed either side of the Pulley. The long Strips must be held tightly but of course, the Pulley must be free to turn.

## Note: Models with headlights

Ensure that the headlight glasses are fixed in position *before* attaching the radiator grille.



BC1

## Bei Baubeginn bitte genau durchlesen!

In diesem Buch sind alle Anweisungen zum Bau von MECCANO-Modellen enthalten. Die guten Farbbilder zeigen jeden Schritt zur Fertigung jedes Modells.

Wenn Sie zum ersten Mal Meccano verwenden, sehen Sie den untenstehenden Absatz sorgfältig durch. Er sagt Ihnen, wie Sie die einfachsten Bauvorgänge mit Meccano ausführen.

Wir möchten darauf hinweisen, daß alle Modelle dieses Buches nur Anregungen sein sollen. In der Praxis wird sich zeigen, daß es noch viele Entwicklungsmöglichkeiten gibt.

Falls weitere Teile benötigt werden – der MECCANO-Fachhändler hat sie!

Nun flott angegangen – viel Spaß!

## Handhabung.

Mit nur wenig Übung lässt sich Meccano leicht handhaben. An Werkzeugen werden lediglich ein Schraubenzieher und zwei Schraubenschlüssel benötigt.

Wahrscheinlich hast Du schon einmal die Werkzeuge Deines Vaters benutzt, doch wollen wir vorsorglich deren Arbeitsweise nachfolgend genauer beschreiben.

Mit dem Schraubenzieher werden Schrauben gedreht. Hierzu musst Du die Klinge in den Schlitz des Schraubenkopfes einlegen und den Schraubenzieher dann im Uhrzeigersinn (als nach rechts) drehen. Um eine Schraube zu lösen, drehst Du den Schraubenzieher in der entgegengesetzten Richtung.

Muttern werden am anderen Ende der Schraube angebracht um eine feste Verbindung zu schaffen. Zuerst musst Du die Mutter mit den Fingern auf das Schraubengewinde aufdrehen, und danach kannst Du die Mutter mit dem Schraubenschlüssel festziehen. Wenn sich dabei nun Schraube und Mutter zusammen drehen, kannst Du die Klinge des Schraubenziehers in den Schlitz des Schraubenkopfes einlegen und so die Schraube festhalten, während Du die Mutter festziehst.

In dem Bausatz findest Du zwei Schraubenschlüssel, die Du zur Herstellung einer festen Verbindung durch eine Gegenmutter benötigst. Eine solche Verbindung brauchst Du, wenn sich ein Bauteil zwischen der Mutter und der Schraube frei bewegen soll. Du schaffst eine solche feste Verbindung, indem Du zwei Muttern auf das Schraubengewinde aufdrehst und die beiden Muttern dann gegeneinander fest anziehst.

Wenn Sie Bleche biegen, tun Sie das mit Hilfe eines runden Bleistiftes. Halten Sie den Stift unter das flexible Blech *zwischen die Lochreihe*. Legen



Sie einen Finger oben auf das Blech und drücken Sie auf den Stift als wenn Sie ein Stück Papier falten würden.

Zum Bauen von Meccano-Modellen wirst Du gelegentlich gewisse Standardverbindungen benötigen, die man "Grundbauart" nennt und die durch "Kennzahlen" unterschieden werden.

Es ist zu empfehlen, dass Du diese Grundbauarten übst, weil Du dann Deine Multikit-Modelle ohne Schwierigkeiten erstellen kannst.

Die Nummern BC3 und BC4 finden für die Modelle in diesem Buch keine Anwendung. Sie sind nur deswegen beigefügt, weil Du sie vielleicht beim Bau von Modellen nach Deinen eigenen Plänen von Nutzen findest.

**BC1** Dies ist eine der Möglichkeiten zur Verbindung von zwei Teilen derart, dass die Teile beweglich bleiben. Dies ist ein Beispiel der Schaffung einer festen Verbindung mit einer Gegenmutter. Schiebe die Schraube durch einen Bauteil, drehe eine Mutter auf das Schraubengewinde auf, aber nur so weit, dass sich das Bauteil noch bewegen kann. Drehe dann eine zweite Mutter auf und ziehe diese gegen die erste Mutter fest. Hierbei musst Du die erste Mutter mit dem anderen Schraubenschlüssel festhalten.

**BC2** Dies ist eine andere feste Verbindung. Schiebe die Schraube durch einen Bauteil, drehe die erste Mutter auf das Schraubengewinde auf, schiebe dann den zweiten Bauteil über das Ende der Schraube und drehe dann die zweite Mutter auf. Ziehe alsdann die beiden Muttern gegeneinander fest, und zwar derart, dass sich der erste Bauteil um die Muttern und die Schraube drehen kann.

**BC3** Hier sind zwei Bauteile einfach durch einen dritten Bauteil miteinander verbunden. Das lässt sich mit zwei Muttern und Schrauben erreichen, doch erreicht man mit vier Muttern und Schrauben eine stärkere Bindung.

**BC4** Hier sind zwei Bauteile durch zwei Muttern und Schrauben miteinander verbunden. (Wenn Du nur eine Mutter und Schraube verwendest, können sich die Bauteile natürlich frei drehen.)

**BC11** Diese Bauart wird beim Bau von Hebevorrichtungen für Kräne verwendet. Hierzu brauchst Du eine lange Schraube (332), die Du durch den Kranausleger schiebst, sowie durch die Riemenscheibe (23) und einen anderen Bauteil. Achte darauf, dass auf beiden Seiten der Riemenscheibe eine Mutter ist. Die langen Bauteile müssen natürlich fest aneinander liegen, während die Riemenscheibe natürlich beweglich bleiben muss.

#### **Zur Beachtung: Modelle mit Scheinwerfern**

Es ist darauf zu achten, dass die Scheinwerfergläser vor dem Einbau des Kühlergrills eingesetzt werden.

#### **A lire attentivement avant de commencer le montage.**

Vous trouverez dans ce livre toutes instructions de montage, avec des illustrations en couleurs détaillant étape par étape la réalisation du modèle.

Vous n'avez peut-être jamais construit de Meccano? Alors lisez attentivement le texte ci-dessous, vous y trouverez tout ce qu'il vous faut savoir.

Les modèles illustrés dans ce livre ne sont que des suggestions. Avec de la pratique, vous pourrez concevoir et construire vos propres modèles. Vous pouvez vous procurer des pièces détachées chez votre revendeur habituel.

Et maintenant, à vous de jouer... et amusez vous bien!

#### **Comment utiliser Meccano.**

Vous verrez qu'avec un tout petit peu d'entraînement, Meccano est très facile à utiliser. Les seuls outils dont vous avez besoin sont: un tournevis et deux clés.

Vous vous êtes peut-être déjà servi de ceux de votre père. Dans le cas contraire, voici comment ils fonctionnent.

Le tournevis sert à visser un boulon dans une pièce Meccano. Il suffit de mettre la lame du tournevis dans la fente de la tête du boulon et de tourner dans le sens des aiguilles d'une montre. Pour dévisser un boulon, tournez le tournevis dans le sens opposé.

Les écrous se mettent sur l'autre extrémité du boulon afin d'assurer une fixation solide. Commencez par visser l'écrou sur le boulon avec vos doigts. Prenez ensuite le clé pour serrer l'écrou. Si l'écrou et le boulon tournent ensemble, mettez le tournevis dans la fente du boulon et maintenez-le pendant que vous serrez l'écrou.

Il y a deux clés dans ce Multikit, de façon que vous puissiez faire une articulation à contre-écrou. Pour cela, il suffit d'enfiler deux écrous sur le bout d'un boulon et de les serrer l'un contre l'autre. Vous utiliserez ce procédé pour qu'une pièce bouge librement entre un écrou et un boulon.

Pour recourber une plaque, palpez-la sur un crayon rond ou tout autre objet de forme similaire. Maintenez le crayon sous la plaque, entre deux rangées de trous. Posez un doigt sur la plaque et appuyez-la contre le crayon, comme pour plier un morceau de papier.

Pour certains modèles, vous aurez besoin de montages. Ceux-ci sont appelés "montages de base" et chacun possède un numéro.

Il est bon de vous entraîner à faire ces montages de base. Une fois que vous les connaîtrez bien, vous n'aurez absolument aucun problème pour

réaliser vos modèles "Multikit".

Vous n'aurez pas besoin des montages BC3 et BC4 pour construire les modèles de ce livre, mais ils vous serviront pour créer vos propres modèles.

**BC1** Ce montage permet à deux bandes de bouger. C'est une articulation à contre-écrou. Vous enfoncez le boulon d'un côté et mettez les deux écrous de l'autre. Serrez ensuite les deux écrous l'un contre l'autre comme indiqué sur l'illustration.

**BC2** Est un autre système d'articulation à contre-écrou. Placez un écrou sur une bande et un dessous puis serrez les deux écrous contre une bande.

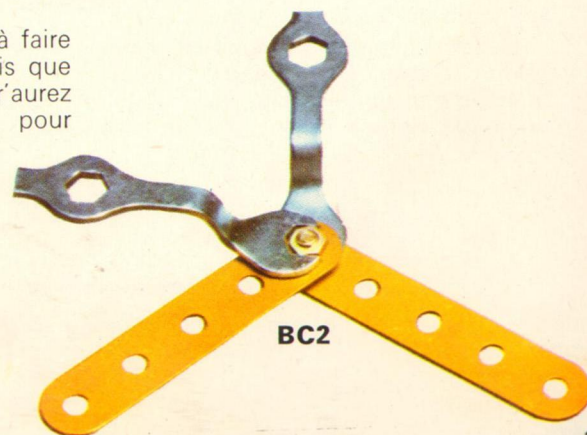
**BC3** Ce sont simplement deux bandes réunies par une troisième. Deux écrous et deux boulons feraient l'affaire, mais quatre permettent une articulation plus solide.

**BC4** C'est une façon d'assembler deux bandes entre elles avec deux écrous et deux boulons. Si vous n'en utilisez qu'un, les bandes pourront pivoter.

**BC11** Ce système est utilisé pour faire une poulie de grue. Enfoncez un grand boulon (332) dans une bande (flèche de la grue), une poulie (23) et une autre bande. Notez qu'un écrou doit être placé de chaque côté de la poulie. Les grandes bandes doivent être étroitement maintenues mais la poulie doit tourner librement.

#### **Note: Modeles avec phares**

S'assurer que les verres des phares soient mis en place avant d'attacher la grille du radiateur.





## Prima di cominciare le costruzioni leggere attentamente quanto segue.

In questo manuale troverete tutte le istruzioni necessarie per costruire i modelli MECCANO. Chiare illustrazioni a colori evidenziano la graduale realizzazione di ciascun modello.

Se non avete mai usato il MECCANO, occorre leggere con attenzione la sezione sottostante in cui sono descritti i metodi fondamentali della costruzione.

Tenete presente che tutti i modelli illustrati in questo manuale rappresentano solamente dei suggerimenti od esempi. Con la pratica potrete ideare e costruire modelli di vostra invenzione. Se vi occorrono pezzi MECCANO in più potrete acquistarli separatamente presso il vostro fornitore. Esigete i pezzi sciolti originali MECCANO.

Mettetevi all'opera . . . e buon divertimento!

## Le Costruzioni MECCANO

Con un poco di pratica, costruire modelli MECCANO è molto facile. I soli utensili necessari sono un cacciavite e due chiavi per dadi.

Forse avrete già adoperato gli utensili di vostro padre, in caso contrario seguite queste istruzioni.

Il cacciavite serve per avvitate le viti. Inserite la punta del cacciavite nel taglio sulla testa della vite e girate in senso orario. Per allentare una vite, girate il cacciavite nel senso contrario.

I dadi si avvitano alle viti per unire insieme i pezzi MECCANO. Si comincia girando con le dita il dado, in senso orario, sul gambo della vite. Quindi si usa la chiave per stringere bene il dado. Se alle volte il dado e la vite girano insieme, inserite la punta del cacciavite nel taglio della vite tenendo fermo e con la chiave stringete strettamente il dado. Può essere talvolta più facile tenere fermo il dado con la chiave e avvitarla la vite con il cacciavite.

Nella scatola Multikit vi sono die chiavi per dadi per poter fare il "controdado". Per realizzare il "controdado" avvitate due dadi sul gambo di una vite e stringeteli strettamente uno contro l'altro, lasciando tra i dadi e la testa della vite lo spazio utile per il libero movimento di un braccio articolato.

Le piastrine flessibili devono venir piegate usando una matita rotonda o un oggetto analogo. Collocare la matita contro il lato sottostante della piastrina, *tra la fila di fori*. Con un dito, premere il lato superiore della piastrina, sopra la matita, allo stesso modo in cui si piega un pezzo di carta.

Nella costruzione di modelli MECCANO alle volte sono necessarie delle giunzioni di vari tipi, indicate nei manuali MECCANO come "costruzioni di base

MECCANO" ciascuna con una sigla di riferimento.

Sarebbe utile fare una certa pratica con queste giunzioni perchè se imparate a realizzarle con cura, vi sarà più facile poi costruire i vostri modelli Multikit MECCANO.

Le "costruzioni di base" BC3 e BC4 non sono contemplate nei modelli di questo manuale, ma sono qui illustrate perchè vi potranno essere utili quando comincerete a costruire modelli di vostra invenzione.

**BC1** E' il modo di congiungere due strisce permettendone l'articolazione. Questo congegno in meccanica è chiamato "controdado". I due dadi, sulla vite di congiunzione, sono stretti uno contro l'altro in modo da non premere contro la striscia; le due strisce devono poter muoversi liberamente sul gambo della vite.

**BC2** E' un'altra applicazione del "controdado". Un dado è avvitato al di sopra di una delle strisce e l'altro dado è avvitato al di sotto. I due dadi sono poi stretti contro la striscia mentre l'altra resta libera di girare sul gambo della vite.

**BC3** Questa è semplicemente la congiunzione di due strisce per mezzo di una terza striscia. Due viti e due dadi possono bastare per avvitarle le tre strisce insieme, ma quattro formano una congiunzione più solida.

**BC4** Questo è il modo di unire due strisce insieme mediante due viti e relativi dadi. Se viene usata una sola vite con il relativo dado le strisce potrebbero muoversi.

**BC11** Questo congegno serve per ottenere una puleggia liberamente girevole alla sommità del braccio di una gru. Usate una vite lunga (332) infilandola in una striscia (braccio della gru), quindi avvitate un dado sul gambo della vite, infilate poi la puleggia (23), avvitate un secondo dado e quindi infilate la vite nell'altra striscia. In ultimo avvitate il dado esterno. Stringete strettamente i due ultimi dadi contro la striscia e il primo contro l'altra striscia e la testa della vite in modo che la puleggia possa girare liberamente.

### Nota: Modelli con i fari

Prima di montare la griglia del radiatore assicurarsi che i vetri dei fari siano fissati in posizione.

## Vennligst les dette nøye før du begynner å bygge.

I denne boken vil du finne alle de instruksjoner du trenger for å bygge Meccano modeller. Der er meget klare farge-fotos som viser deg modellbyggingen steg for steg.

Hvis du ikke har brukt Meccano før, bør du studere nedenstående omhyggelig. Der finner du alt du trenger å vite om de grunnleggende fremgangsmåter når du bygger med Meccano.

Husk at alle modellene i denne boken kun er forslag. Etter hvert som du får øvelse, vil du snart kunne konstruere og bygge dine egne modeller. Hvis du skulle trenge ekstra deler, kan du kjøpe Meccano løs-deler i den nærmeste leketøyforretning.

Så sett igang . . . og ha det moro!

## Howdan man bruker Meccano.

Etter litt øvelse, vil man finne at Meccano er meget lett å bruke. Eneste verktøy du trenger, er en skrutrekker og to fast-nøkler.

Kanskje har du brukt din far's verktøy før, men hvis ikke, er dette hvordan de skal brukes.

Skrutrekkeren brukes til å skru en skrue gjennom Meccano-delen. Man setter bladet på skrutrekkeren inn i spalten på toppen av skruen og vrir med urviseren. Skal man skru opp en skrue, vrir du skruen den andre veien.

Mutteren passer i den andre enden av skruen, og gjør at skruen sitter fast. Begynn å skru mutteren i enden av skruen med fingrene. Bruk tilslutt fastnøklen til å "trekke til" mutteren.

Det er to fast-nøkler i Multikit, slik at du kan lage en "stopp mutter". For å gjøre dette, setter du på to mutre i enden på skruen, og trekker den til mot hverandre. En stopp-skrue trenger du f. eks. når du ønsker at en del skal bevege seg fritt mellom mutteren og skruen.

Når du skal bøye fleksible plater er det lurt å forme dem om en rund blyant eller liknende. Hold blyanten mot undersiden av den fleksible platen, mellom rekken av huller. Sett så fingrene på oversiden av platen og bøy den rundt blyanten, omtrent som når du bretter et stykke papir.

Når du bygger Meccano modeller, vil du av og til behøve visse sammen-skruinger. Disse kalles *Grunnkonstruksjoner*, og hver eneste en har et nummer.

Det er lurt å øve på disse sammen-skruingene, for når du vet hvordan du lager dem, vil du bygge dine Multikit-modeller uten noen vanskeligheter.

Numrene BC3 og BC4 er ikke nødvendig for å kunne bygge modellene i denne boken, men de er tatt med fordi du sannsynligvis vil trenge dem når du begynner å bygge dine egne modeller.



BC3



**BC1** Dette er en måte å skru sammen to skinner på, slik at de kan bevege seg i forhold til hverandre. Dette er et eksempel på "stopp-mutter". Du stikker skruen gjennom fra en side, og setter de to mutterne på fra den andre siden. Skru så mutterne mot hverandre slik som anvist på bildet.

**BC2** Dette er et annet eksempel på "stopp-mutter". Den ene mutteren befinner seg på oversiden av en ab skinnene, og den andre mutteren er på undersiden, så skrues de to mutterne mot skinnen.

**BC3** Dette er ganske enkelt to skinner som er satt sammen ved hjelp av en tredje skinne. To muttere og skruer vil greie seg, men fire vil gi en sterkere dammenføyning.

**BC4** Dette er en måte å sammenføye to skinner på ved å bruke to muttere og skruer. Hvis du bare bruker en, vil skinnene selvfølgelig ha anledning til å bevege seg.

**BC11** Denne konstruksjonen er laget for å montere drivhjul på en kranarm. Du bruker en lang skrue (332) som settes gjennom en skinne (kranarmen) remskiven (23) og en annen skinne. Legg merke til at en mutter må plasseres på hver side av remskiven. De lange skinnen må holdes fast, men remskiven skal kunne bevege seg.

#### **Anmerkning: Modeller med frontlys**

Påse at frontlys glassene er satt på plass *før* radiator grillen settes på.

### **Meccano Verkeersweg Multikit Modellenboek.**

S.v.p. aandachtig lezen voordat je begint te bouwen.

In dit boek staan alle nodige voorschriften om Meccano modellen te bouwen. Er zijn duidelijke afbeeldingen in kleuren, die elke volgende stap bij het bouwen laten zien.

Misschien hebt u Meccano tot op heden nog niet gebruikt. In dat geval moet u de hieronder geplaatste paragraaf heel zorgvuldig lezen. Hierin vindt u alles over de basis bouw-methode van Meccano.

Denk er om dat de modellen in dit boek slechts suggesties zijn. Al doende zu je bemerken dat je je eigen modellen kunt ontwerpen en bouwen. Als je extra onderdelen nodig hebt kan je Meccano reserve onderdelen bij je Meccano handelaar kopen.

Klaar? Af! . . . en veel plezier!

#### **Hoe Meccano wordt gebruikt.**

Bouwen met Meccano is niet moeilijk. Als gereedschap gebruik je een schroevendraaier en twee moersleutels.

Misschien heb je je vaders gereedschap wel eens gebruikt; zo niet, dan zie je hier, hoe ze werken.

Gebruik de schroevendraaier om een boutje in een Meccano onderdeel te schroeven. Doe het blad van de schroevendraaier in de gleuf aan de kop van het boutje en draai de schroevendraaier rechtsom. Losschroeven gebeurt in omgekeerde richting.

Moeren om het andere einde van de boutjes zorgen voor een hechte verbinding. Draai de moer met je vingers op de schroefdraad van het boutje. Zet de moer vast met de moersleutel. Zet de schroevendraaier in de gleuf van het boutje om te voorkomen, dat moer en boutje samen draaien als je de moer vastschroeft.

Er zijn twee moersleutels in de Multikit, zodat je een borg – of contramoer kunt maken. Schroef twee moeren op het einde van een boutje en draai ze tegen elkaar aan. Zo'n borgmoer is nodig bij een stuk dat zich tussen moer en boutje kan bewegen.

Buigzame platen kunt u het beste in de juiste vorm brengen rond een penseel of iets dergelijks. Het penseel houdt men tegen de ondervoorkant van het buigzame plaat je *tussen de rij haatjes*. Plaats uw vinger boven op het plaatje en buig dit om het penseel.

Het is alsof u een stuk papier moet vouwen.

Als je Meccano modellen bouwt zal je nu en dan zekere verbindingen nodig hebben. Die worden *basisconstructies* genoemd en iedere heeft een nummer.

Het is een goed idee, deze verbindingen toe te passen, want als je weet

hoe ze te maken, kan je je modellen van je Multikit zonder moeilijkheden bouwen.

De nos BC3 en BC4 zijn niet nodig om de modellen uit dit boek te bouwen, maar ze zitten er in omdat je ze waarschijnlijk nodig hebt als je begint, je eigen modellen te bouwen.

**BC1** Twee strips zó bevestigen, dat ze kunnen bewegen. Het is een voorbeeld van een borg – of contramoer. Doe het boutje er aan de ene kant in en de twee moeren aan de andere kant. Draai daarna de moeren tegen elkaar aan, zoals de afbeelding laat zien.

**BC2** Een andere soort van borgmoer. Een moer wordt boven de strip gehouden en de andere er onder. Daarna beide moeren tegen de strip aan draaien.

**BC3** Twee strips verbonden door een derde strip. Twee moeren en boutjes kunnen het klaren, maar 4 maken er een stevigere verbinding van.

**BC4** Twee strips verbinden, door twee moeren en boutjes te gebruiken. Als je er maar één zou gebruiken, zouden de strips vanzelfsprekend vrij kunnen bewegen.

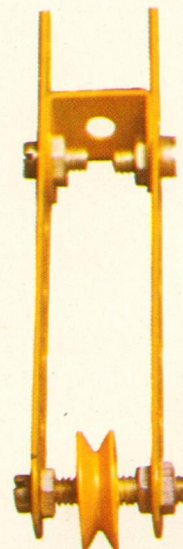
**BC11** Wordt gebruikt om een katrol voor een kraan te maken. Gebruik een lange bout (332) die door een strip wordt geduwd (de zwaaiarm), de riemschijf (23) en een andere strip. Plaats aan elke kant van de riemschijf een moer. De lange strips goed vastzetten, maar de riemschijf moet vrij kunnen draaien.

#### **Modellen met koplampen**

Zorg dat de koplamp glazen eerst gemonteerd worden *voor* dat de radiator grill aangesloten wordt.

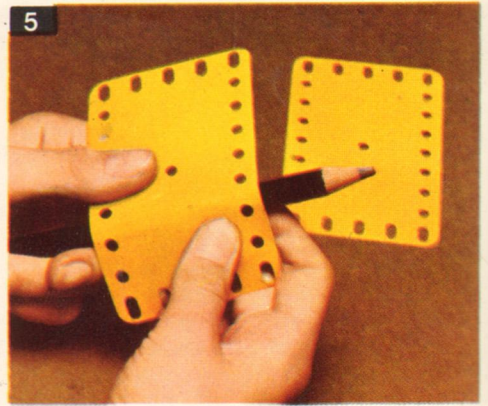
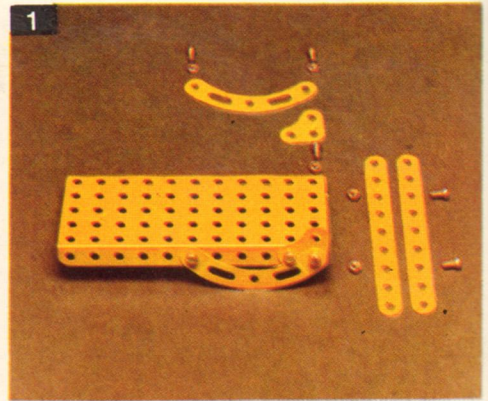
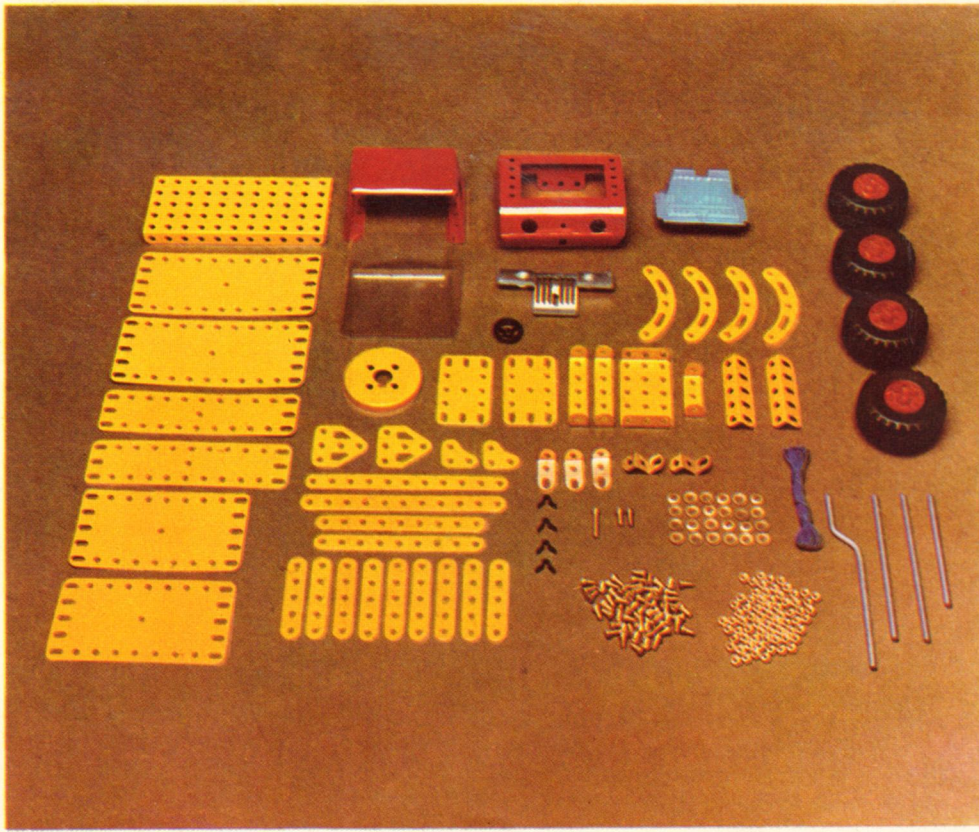


**BC4**



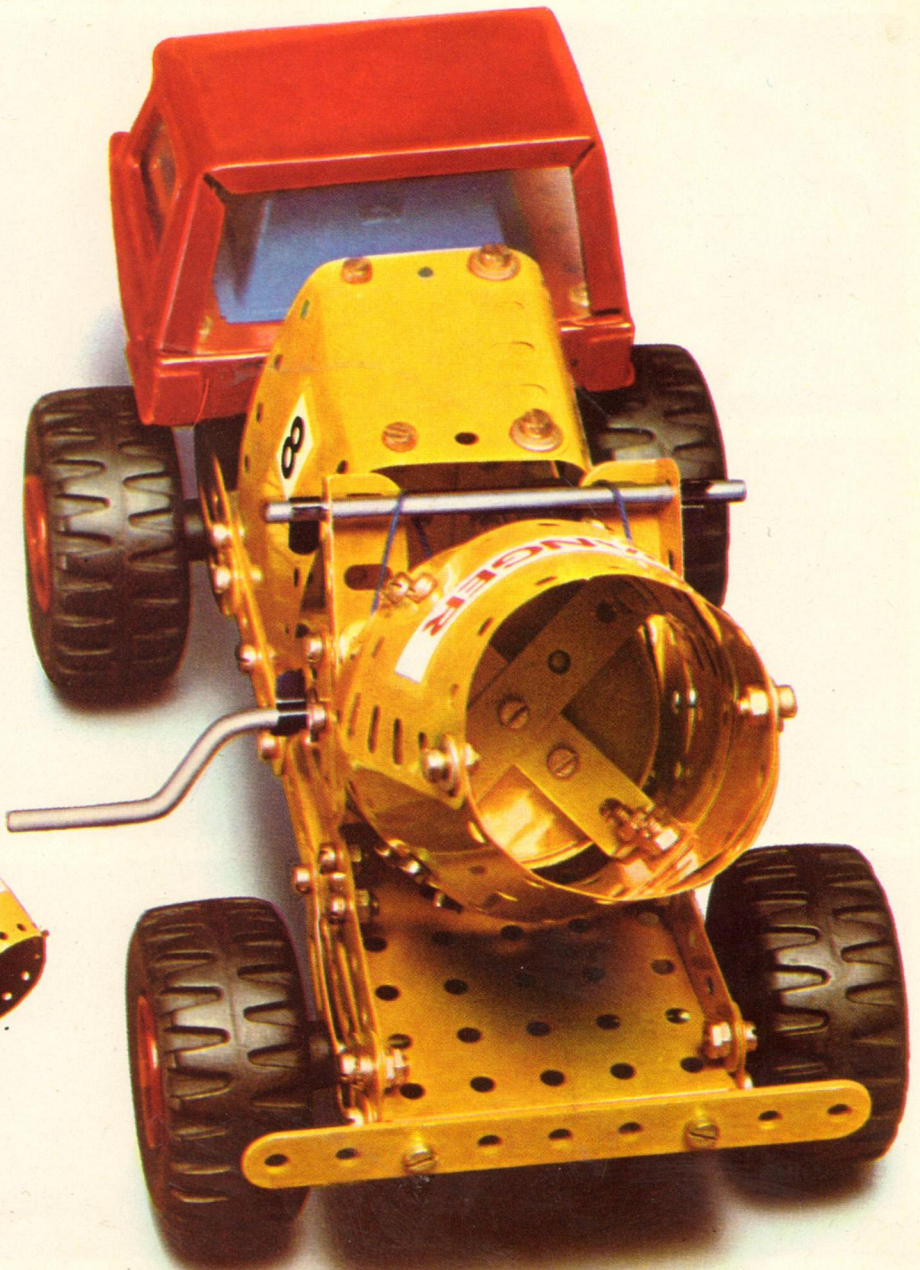
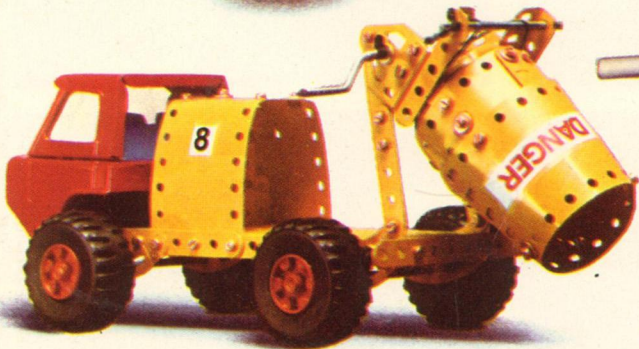
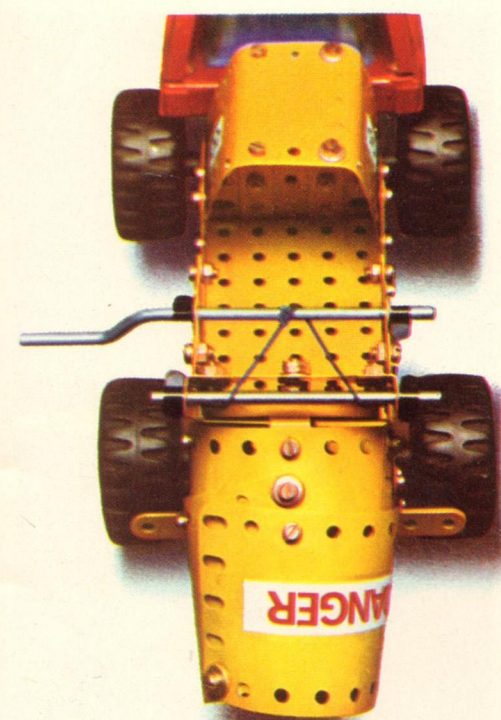
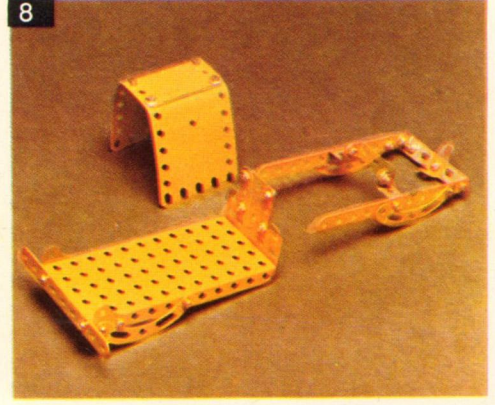
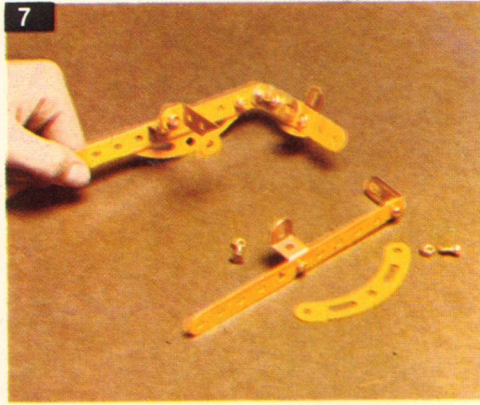
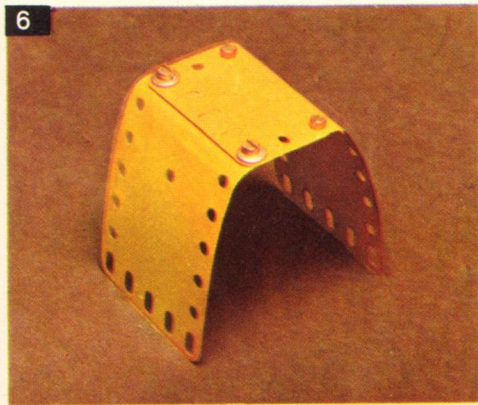
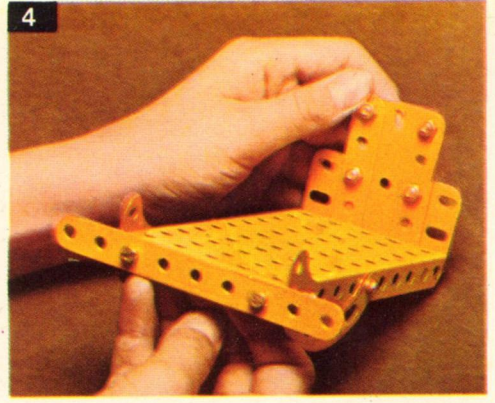
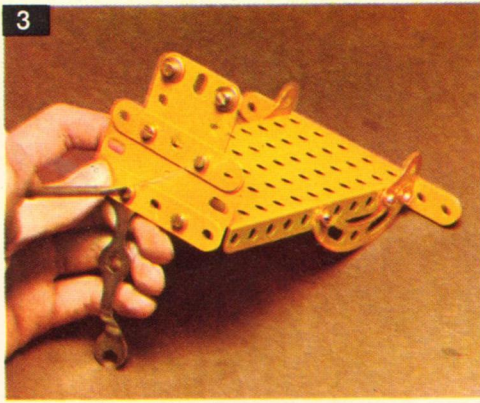
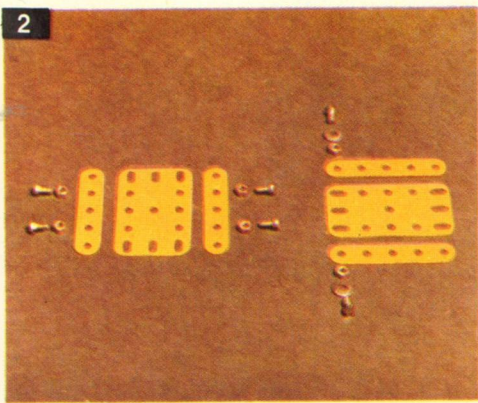
**BC11**



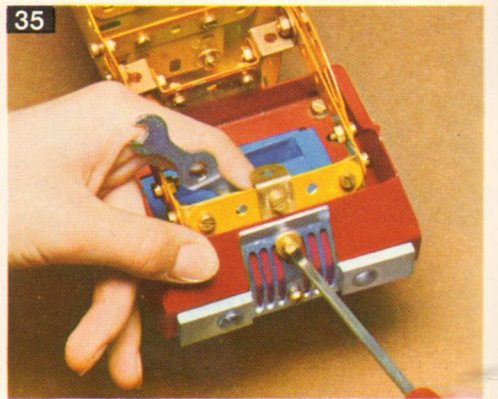
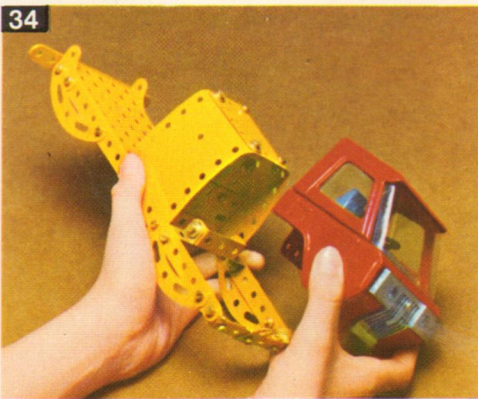
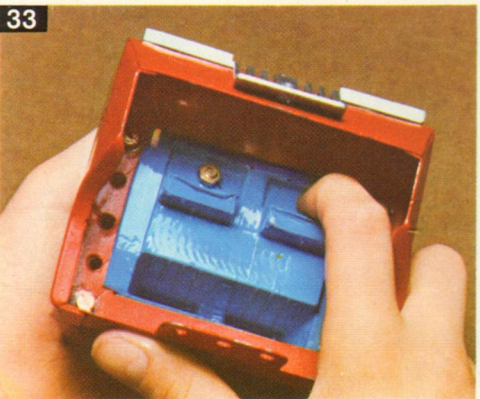
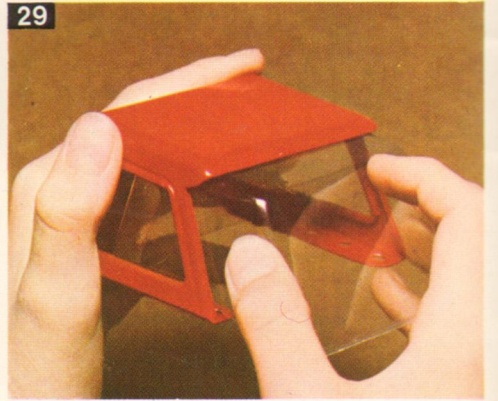
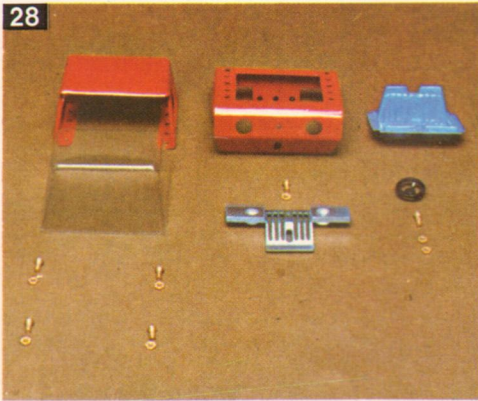
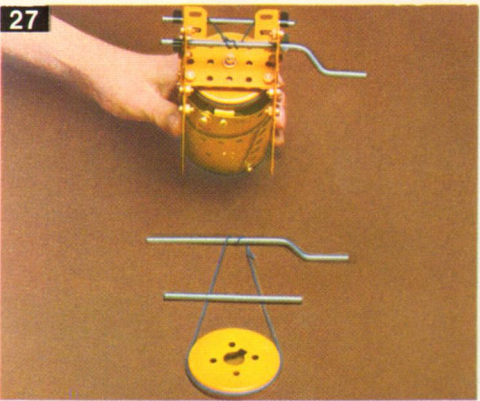
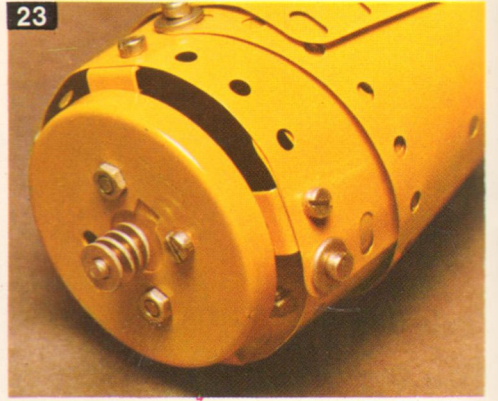
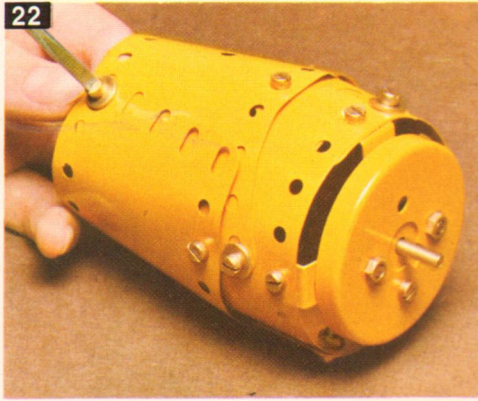
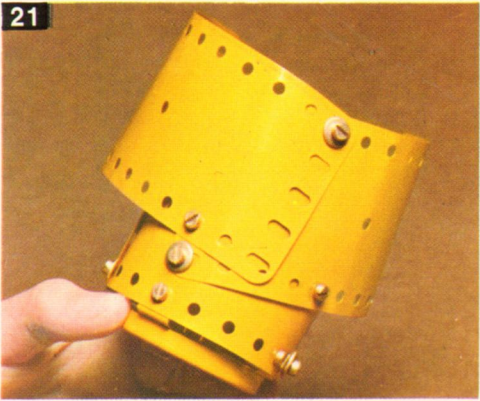
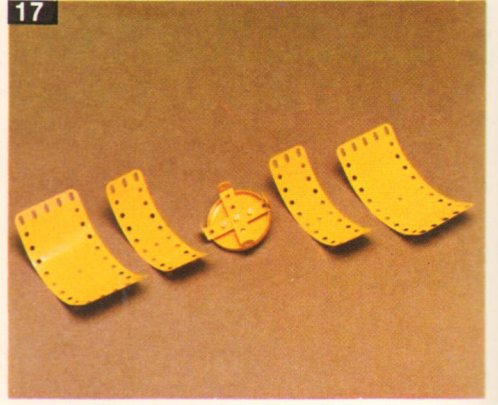
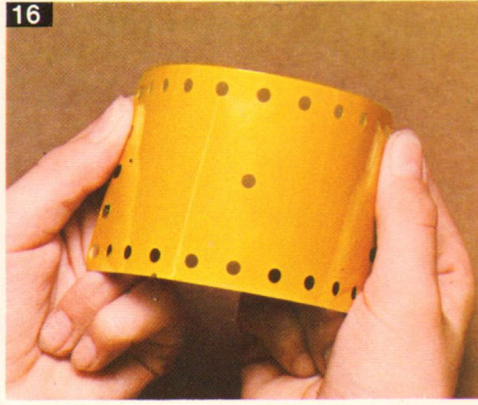
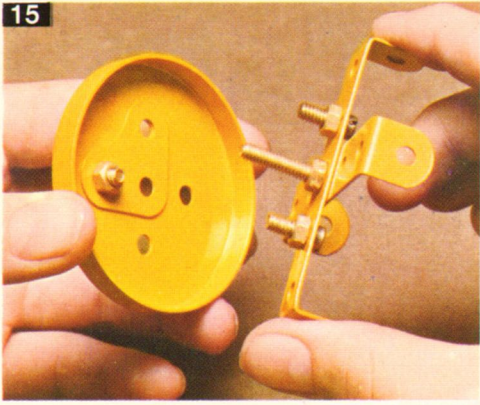
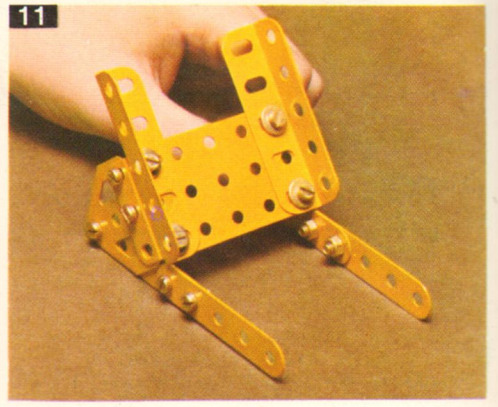
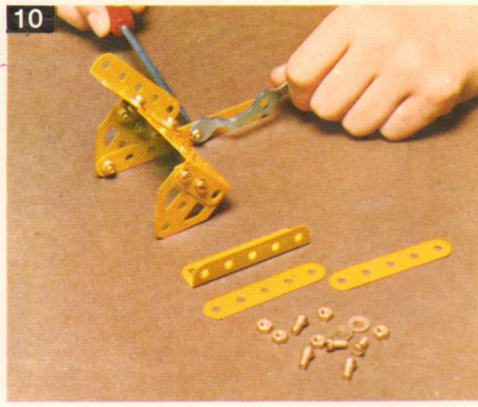
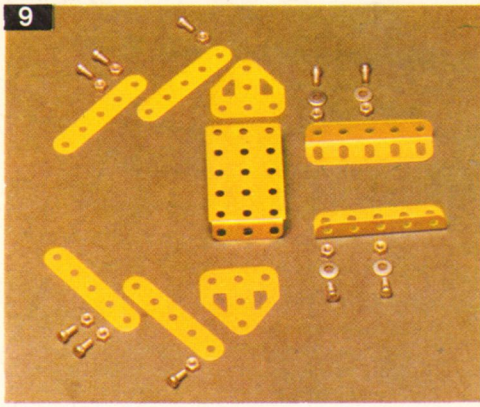


# CEMENT TRUCK

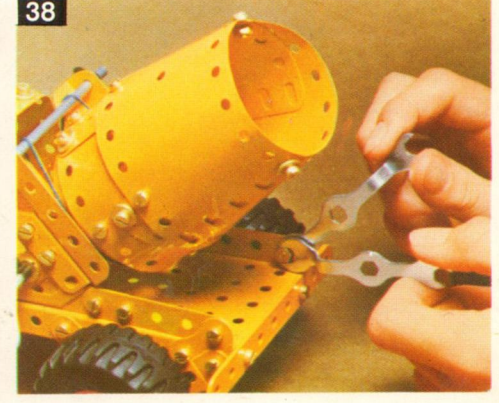
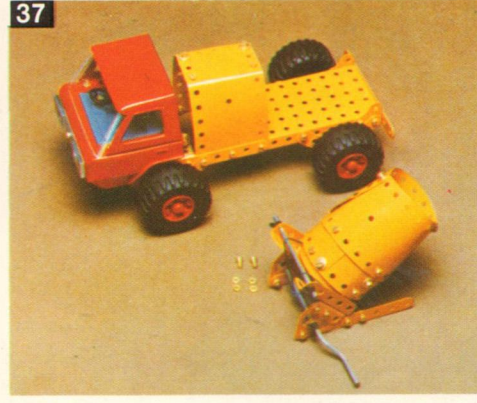
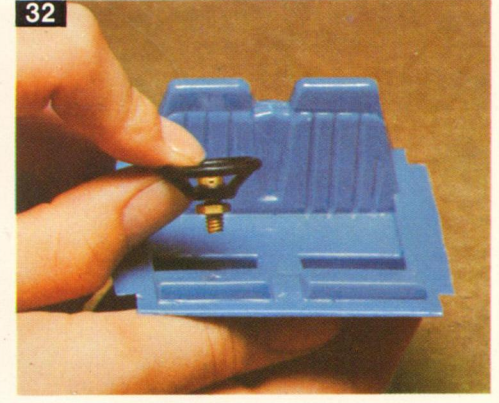
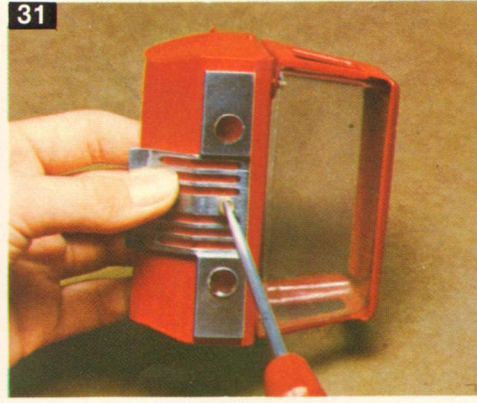
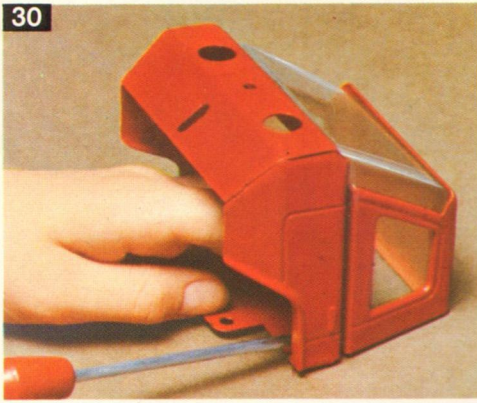
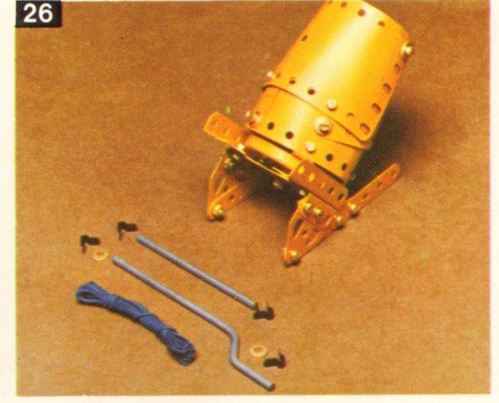
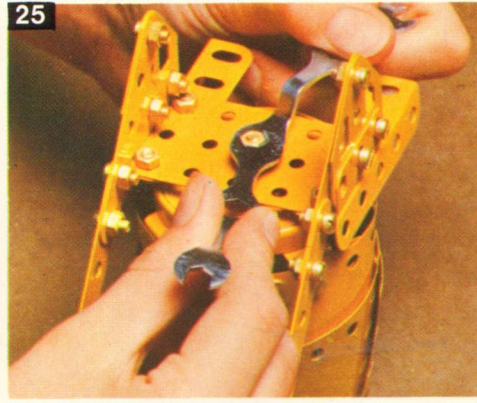
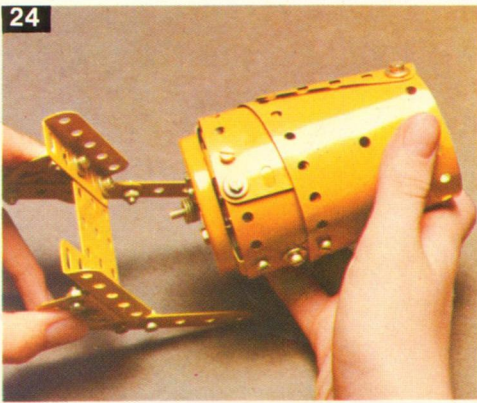
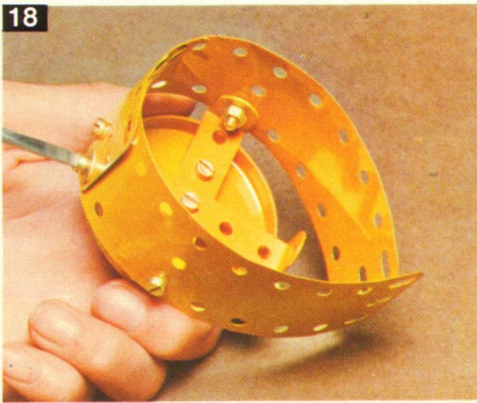
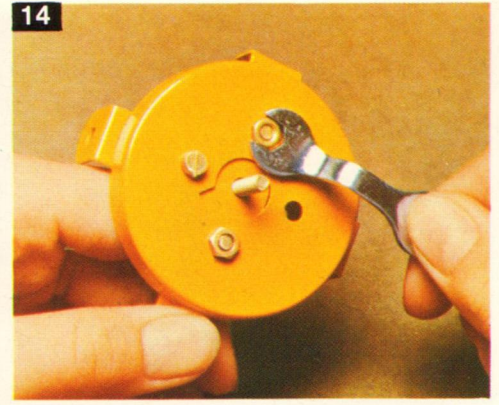
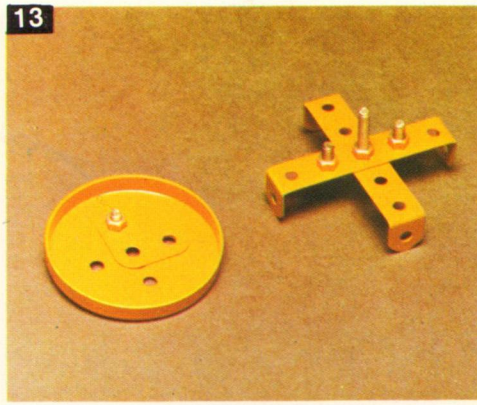
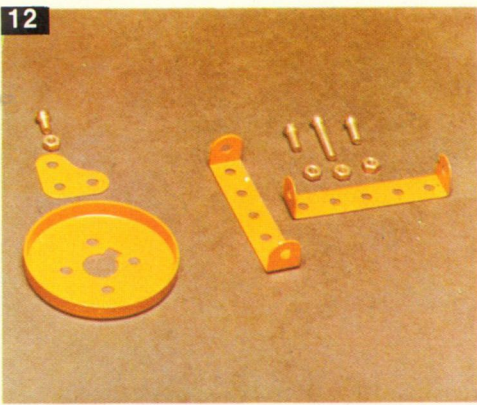




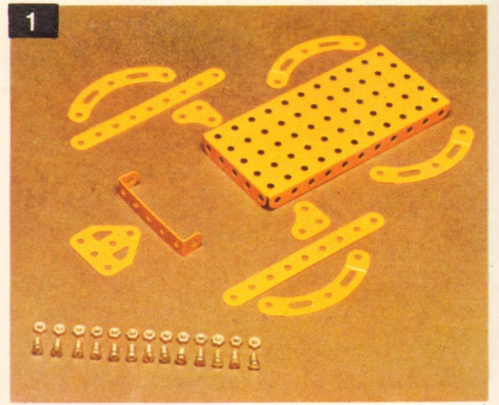
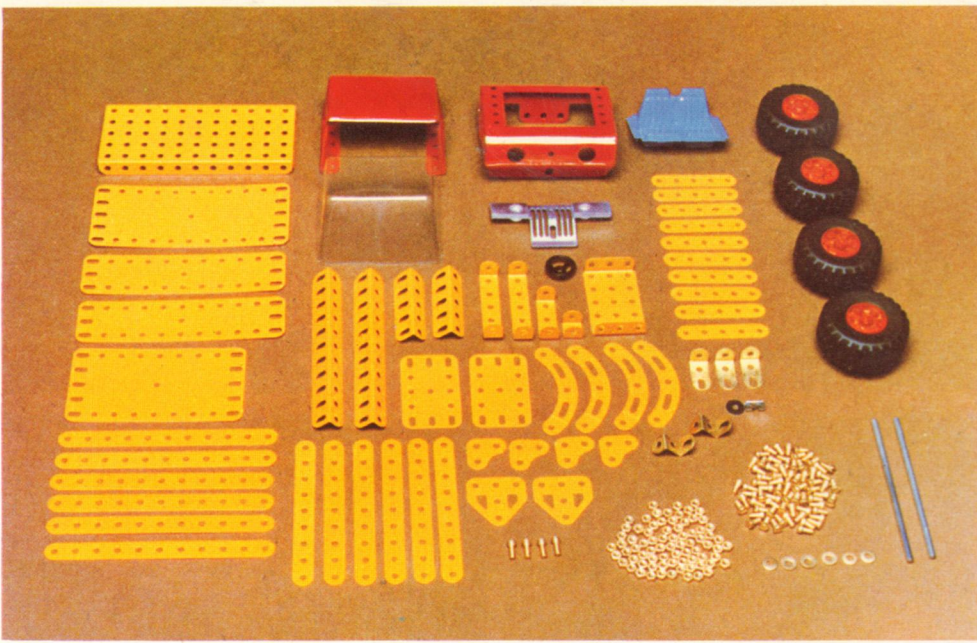




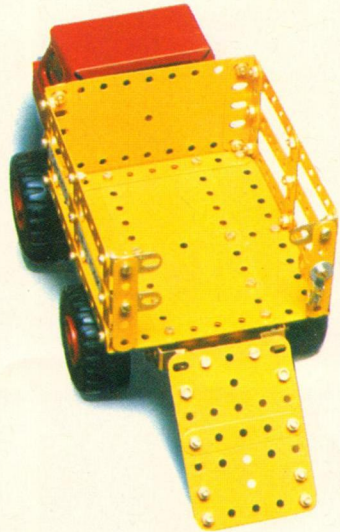
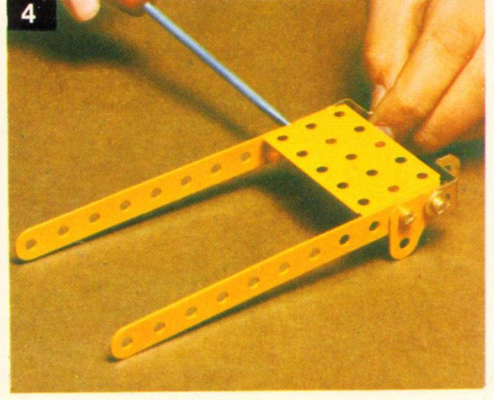
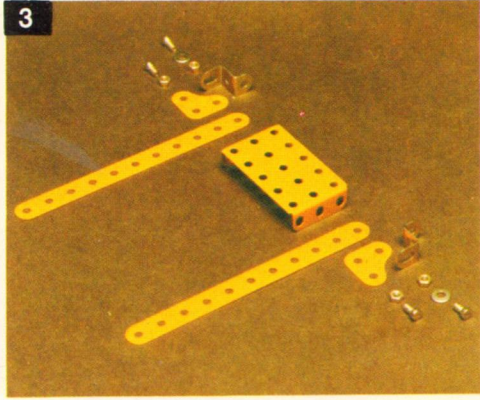
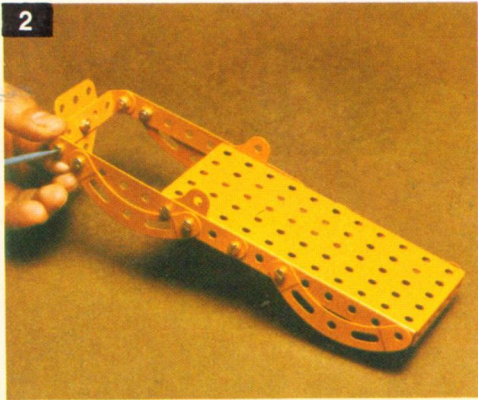






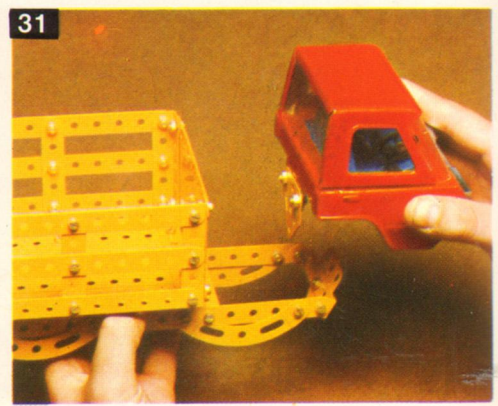
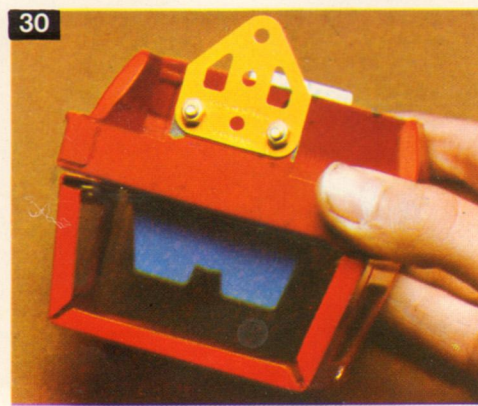
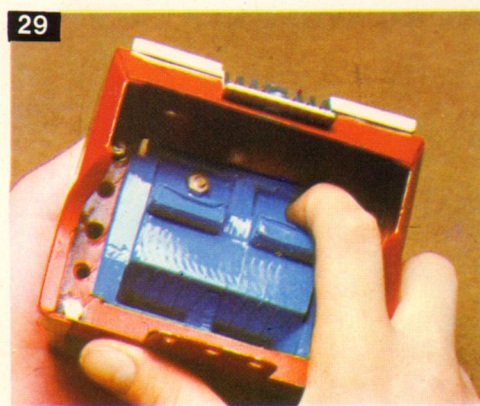
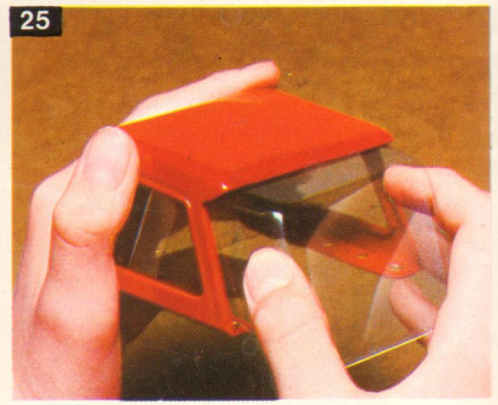
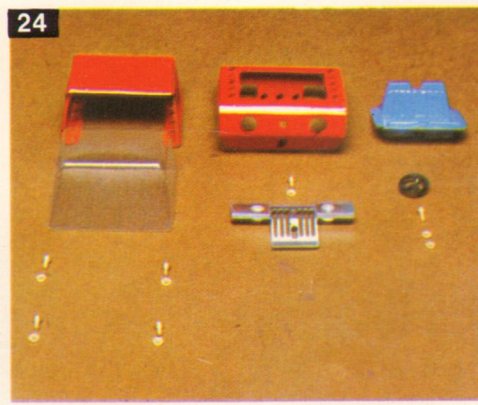
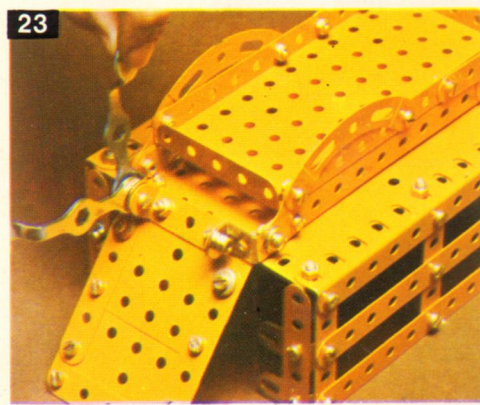
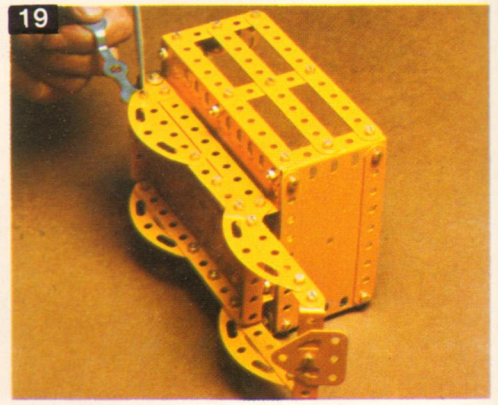
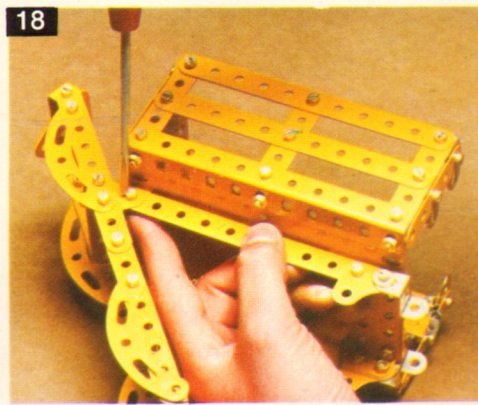
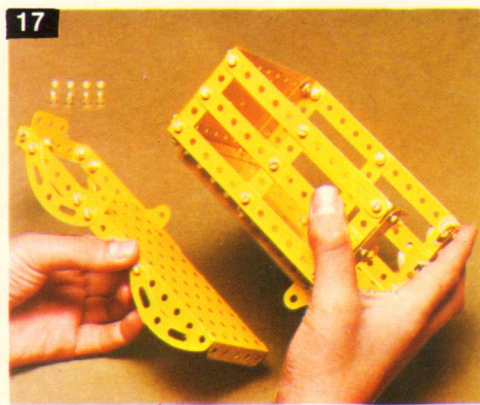
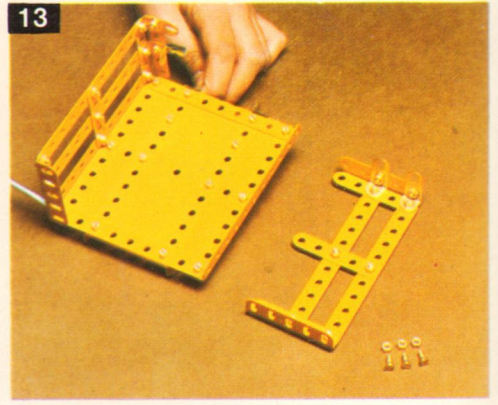
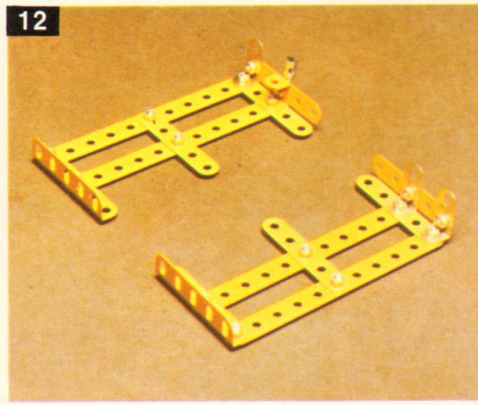
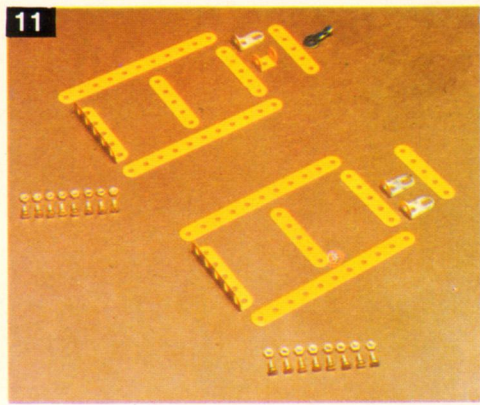
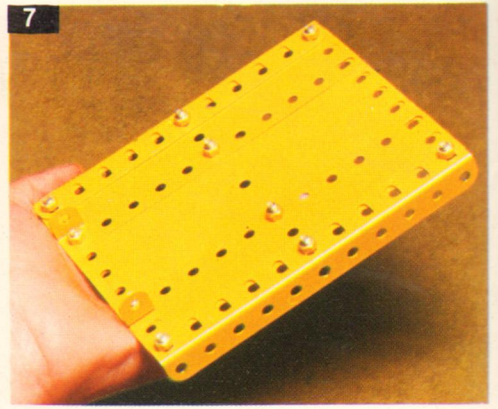
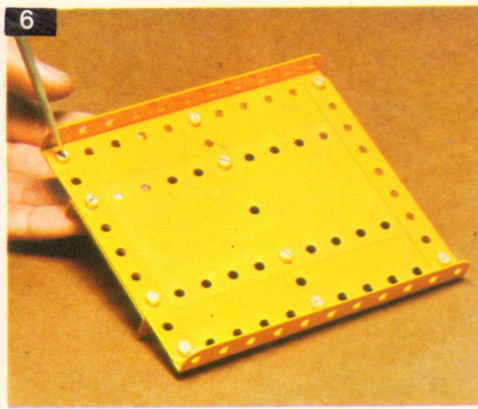
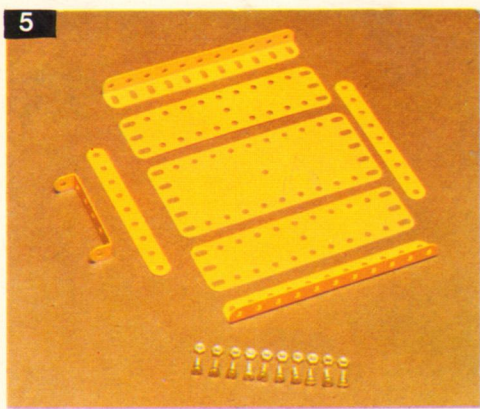




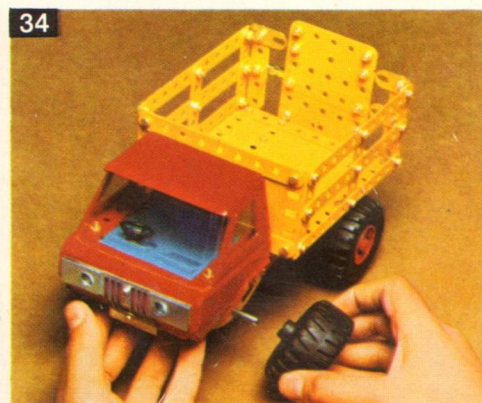
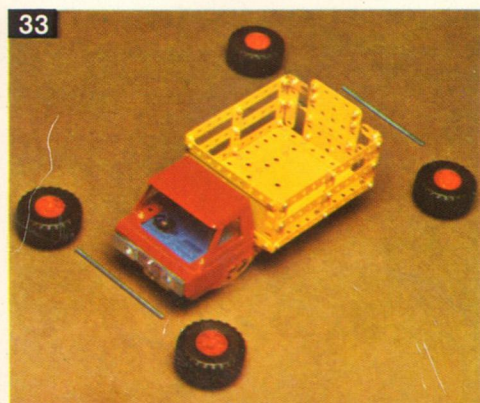
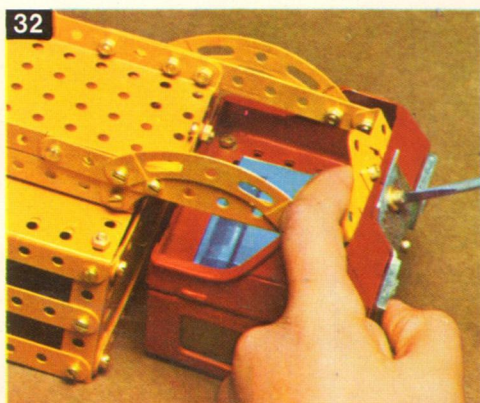
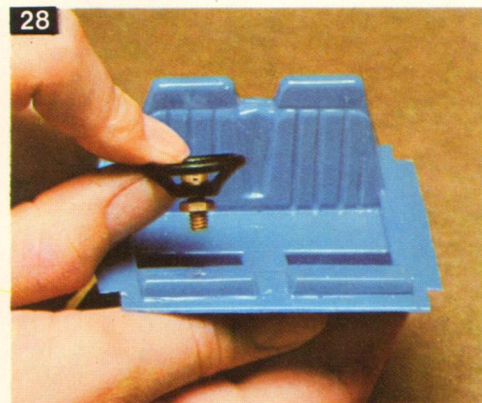
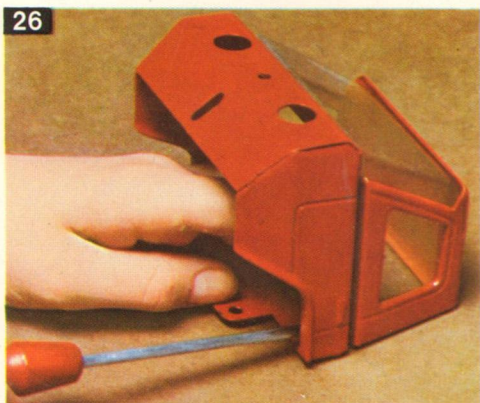
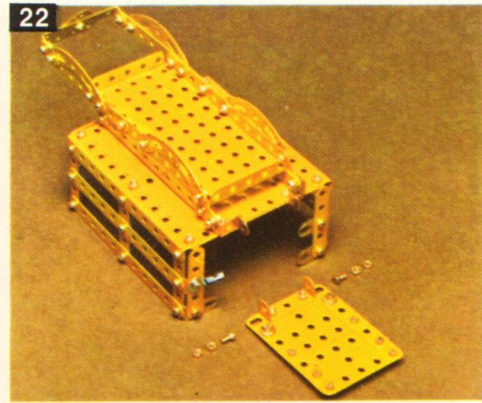
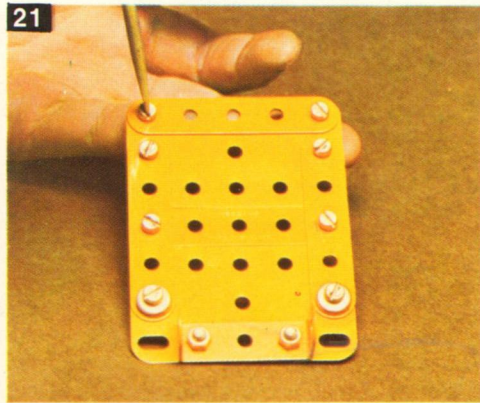
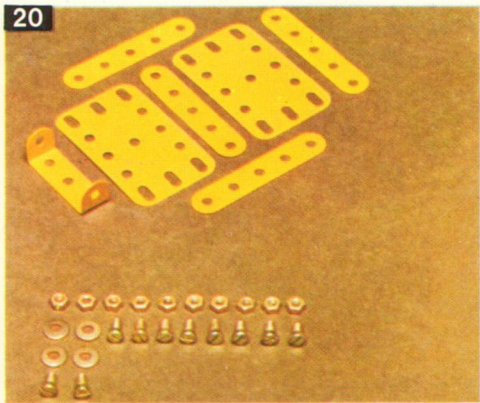
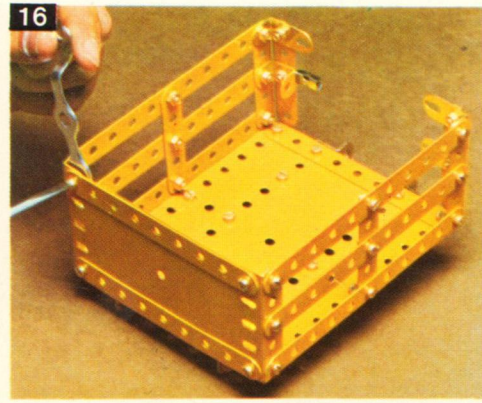
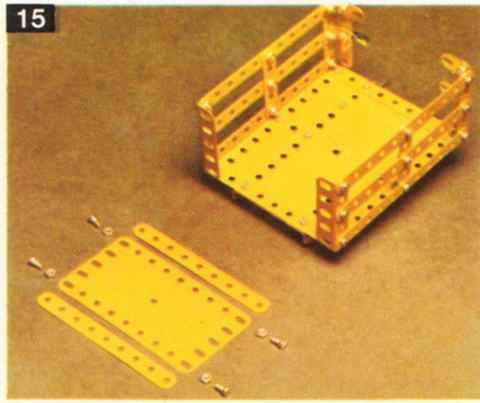
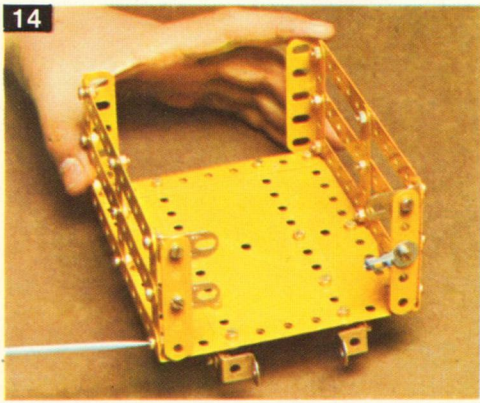
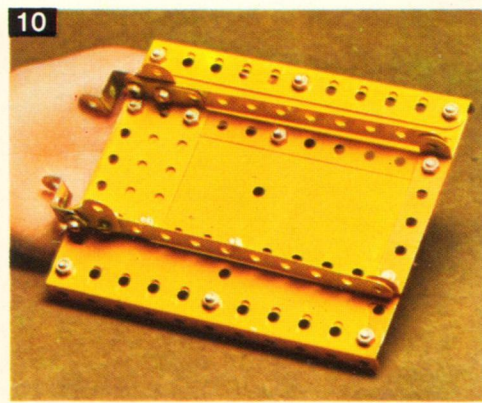
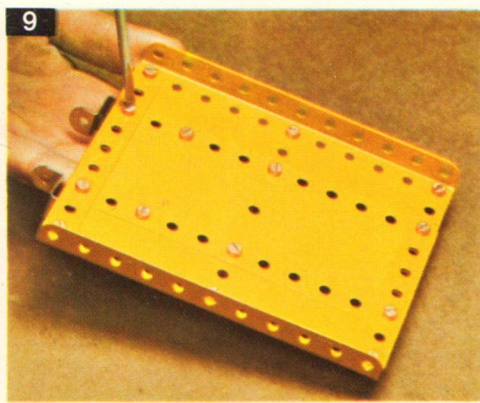
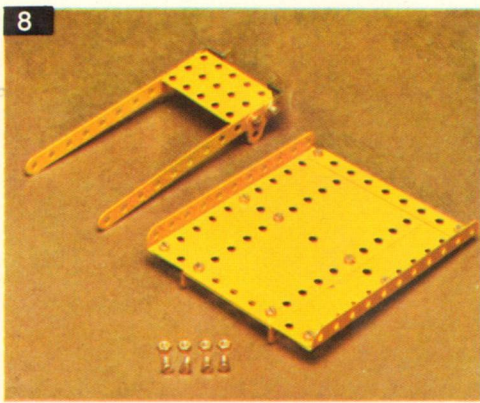


# CATTLE TRUCK

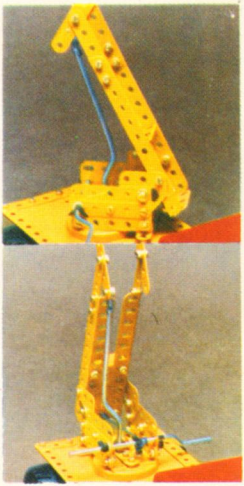
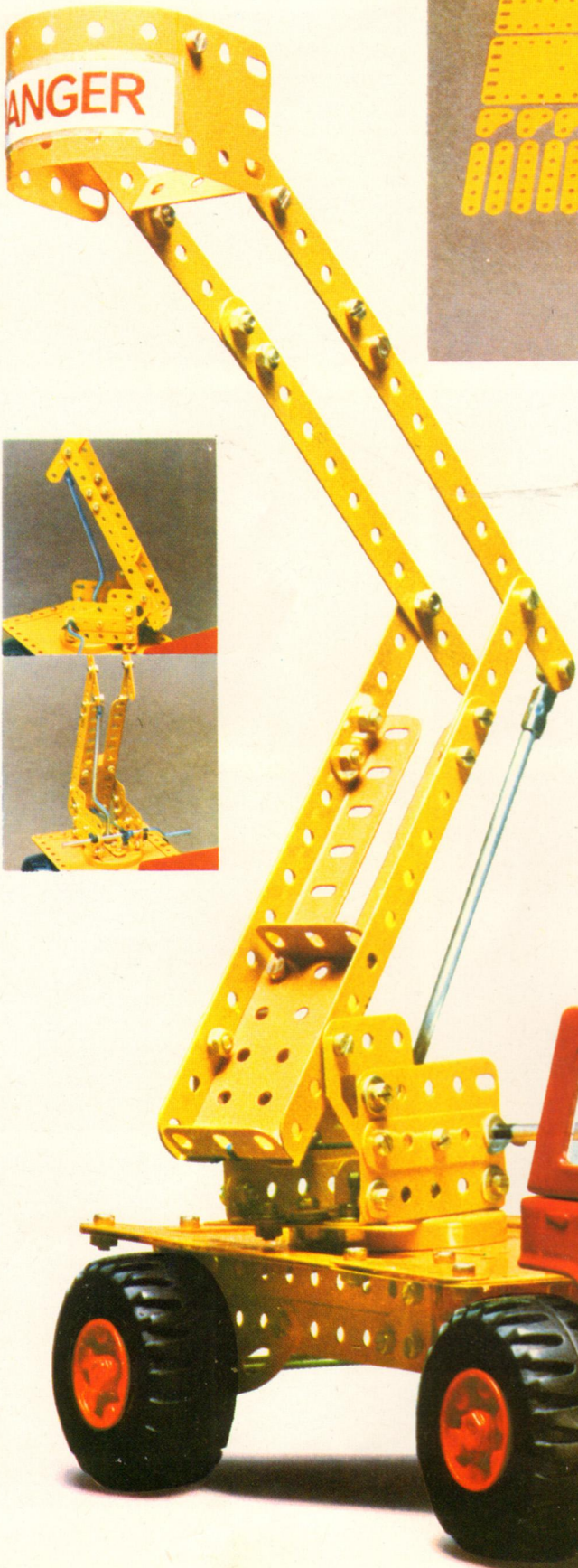
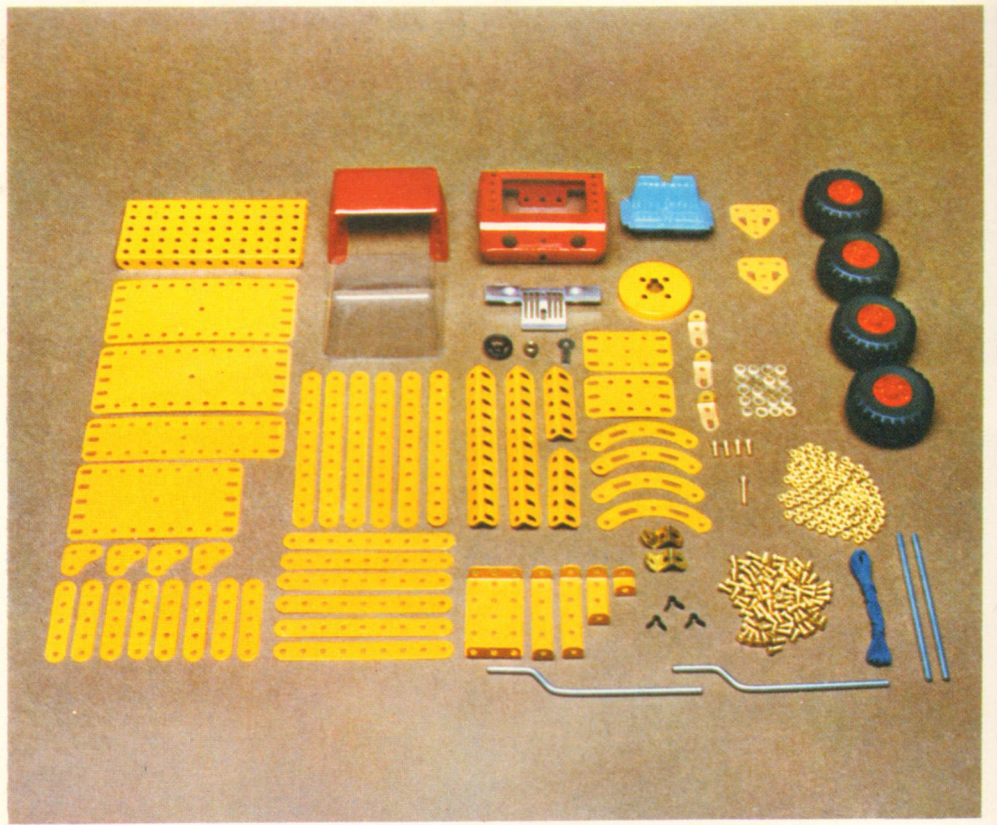




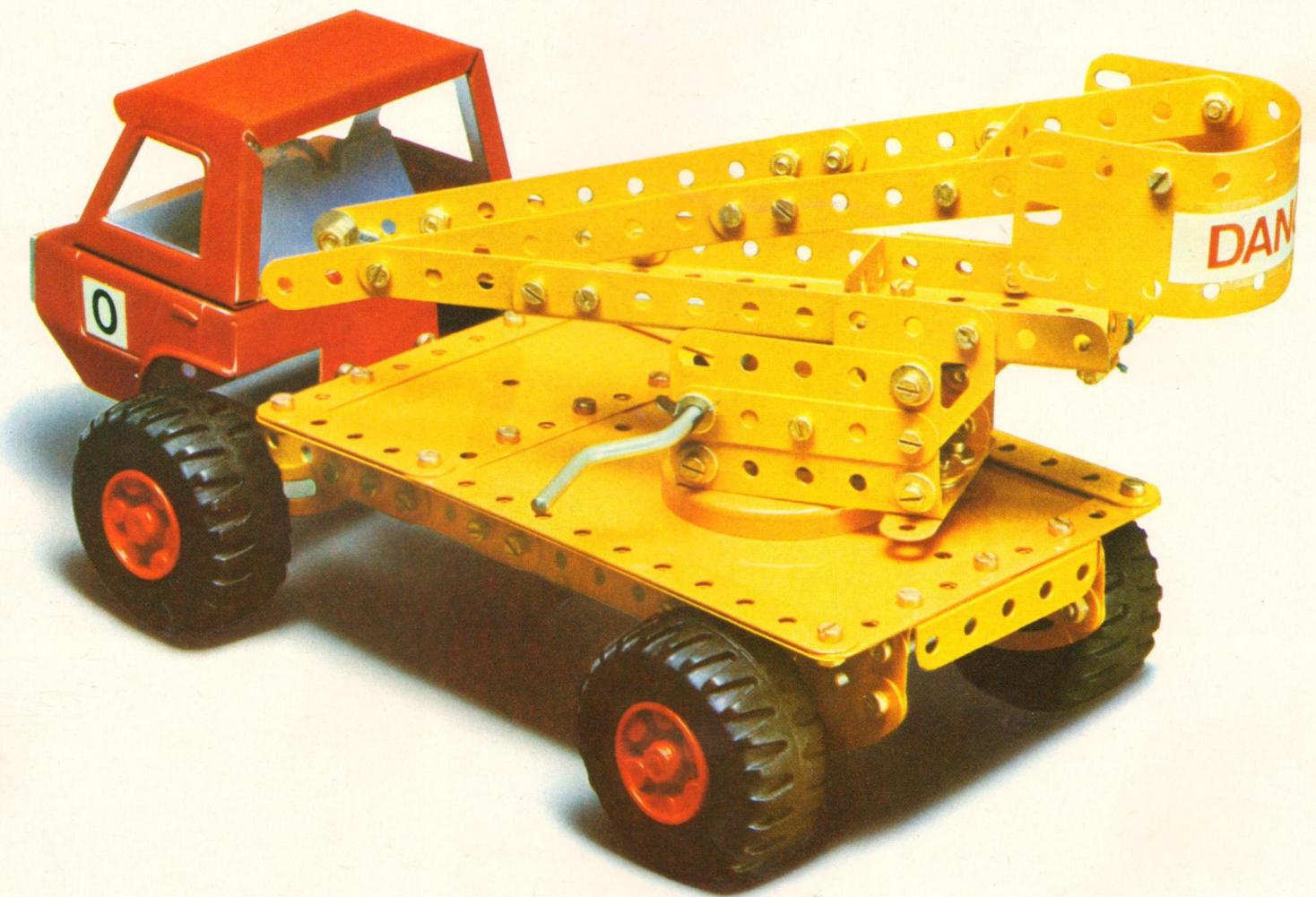
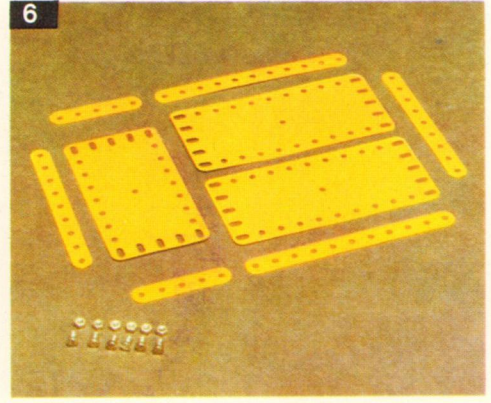
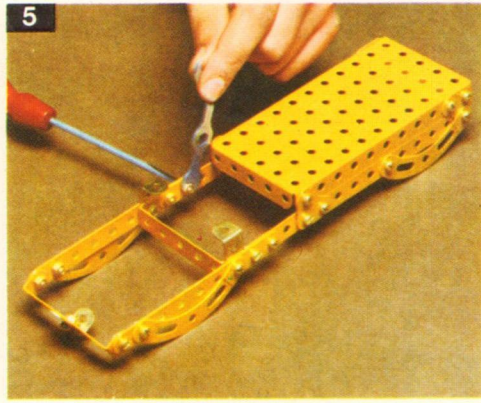
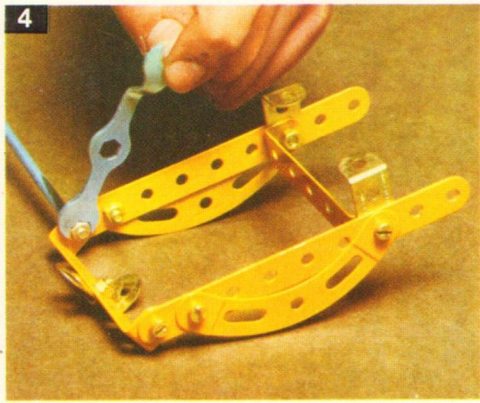
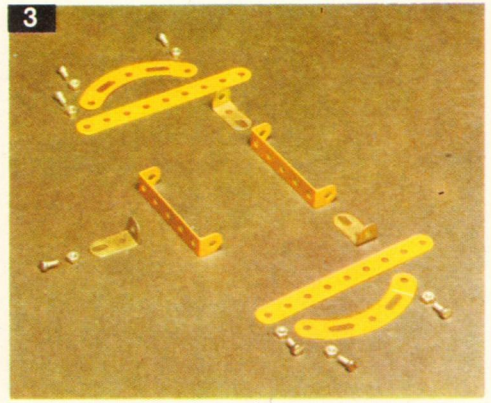
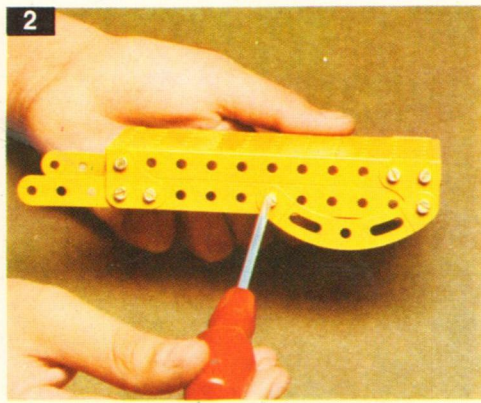
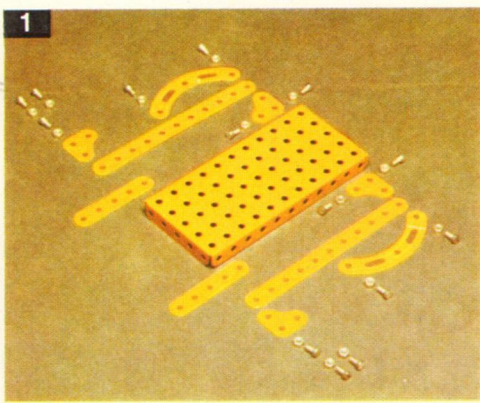






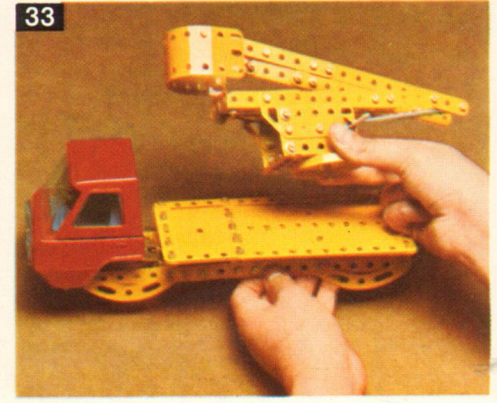
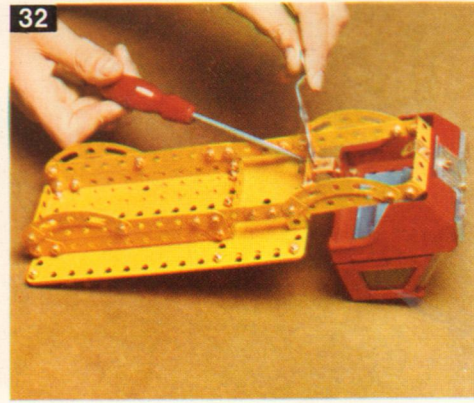
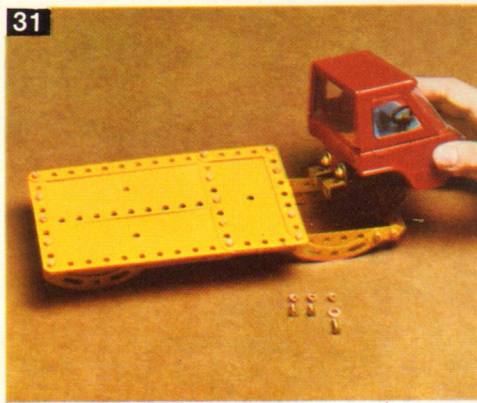
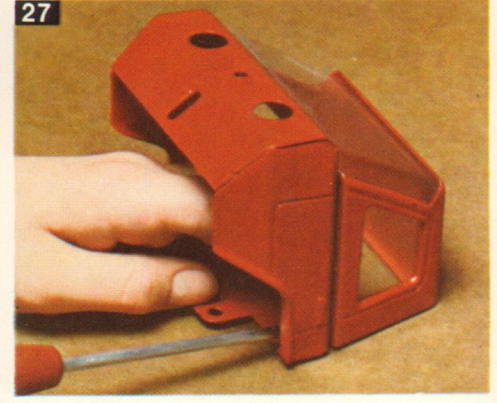
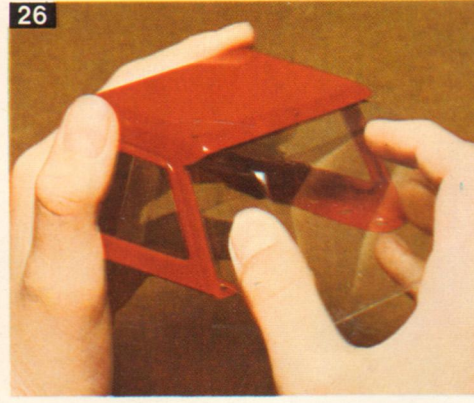
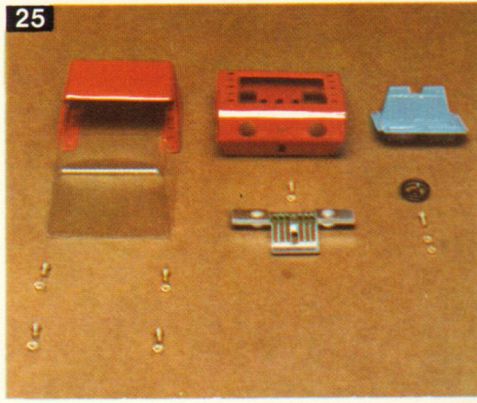
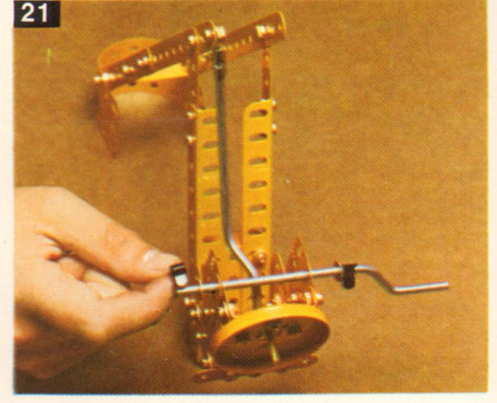
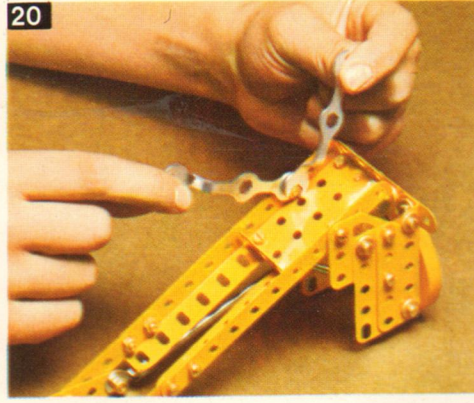
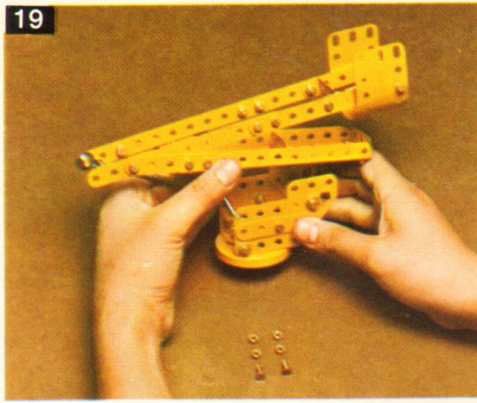
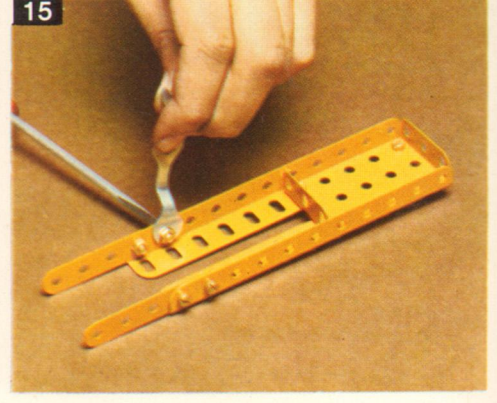
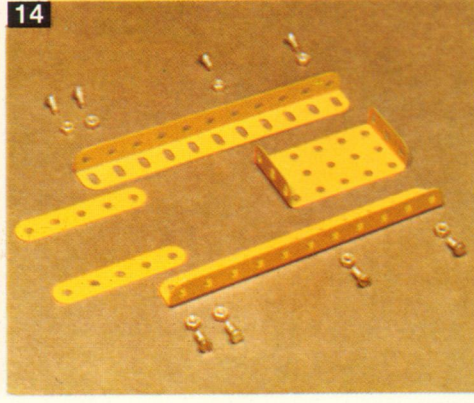
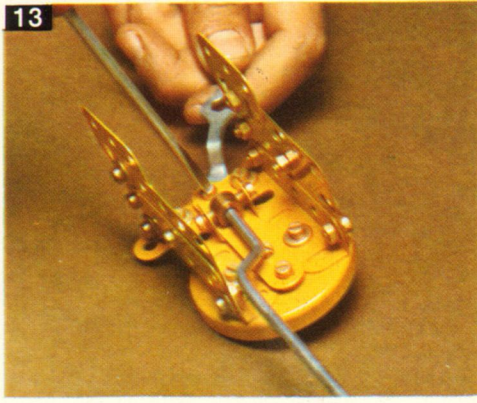
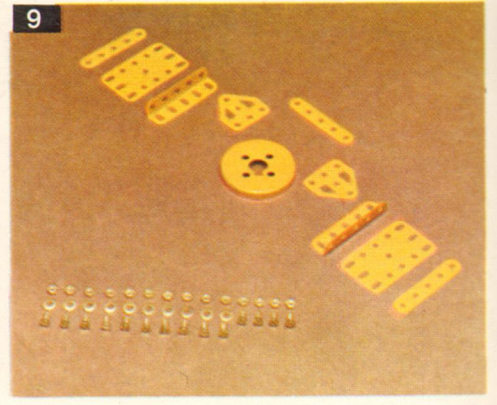
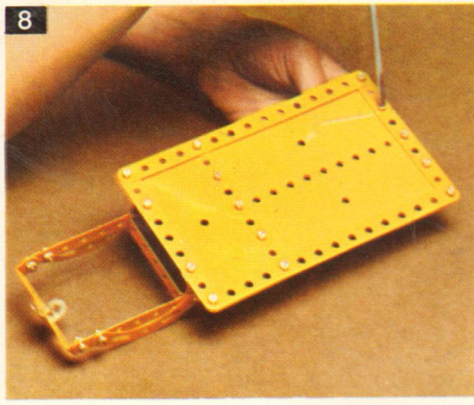
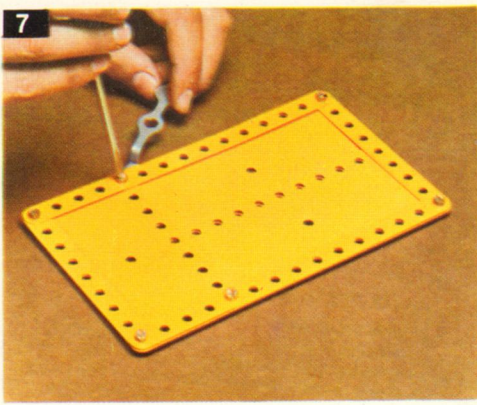




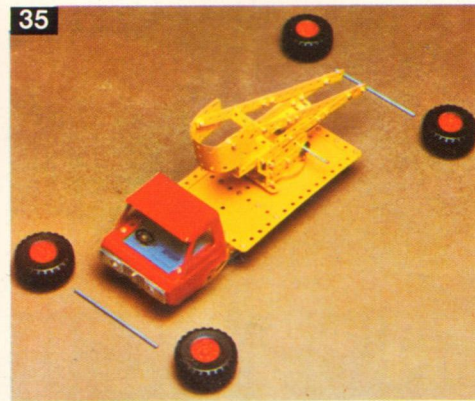
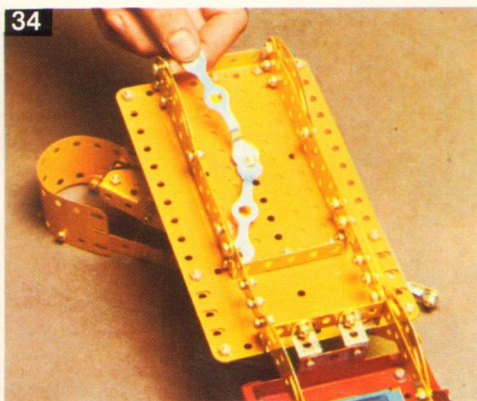
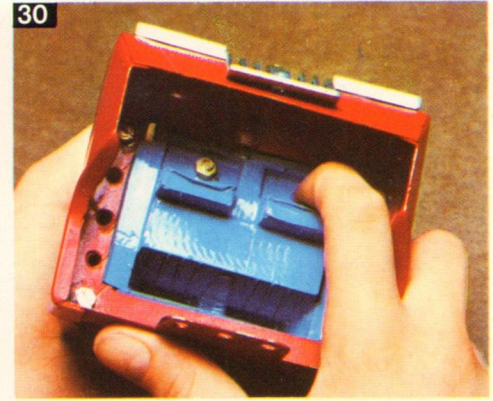
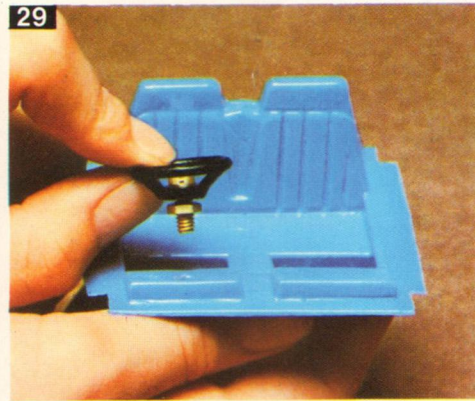
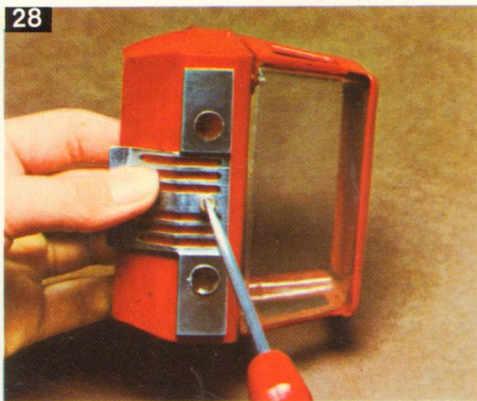
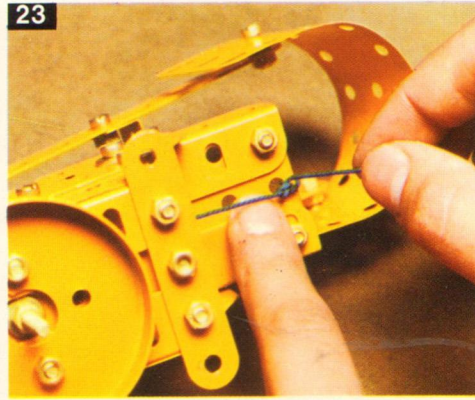
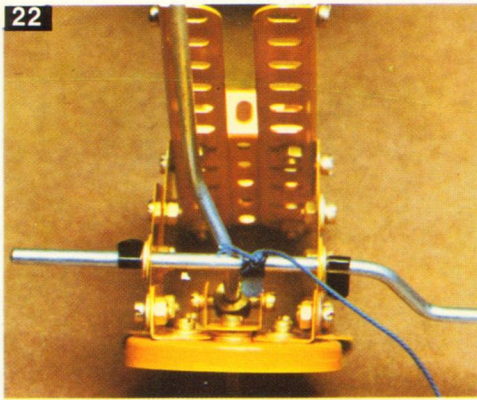
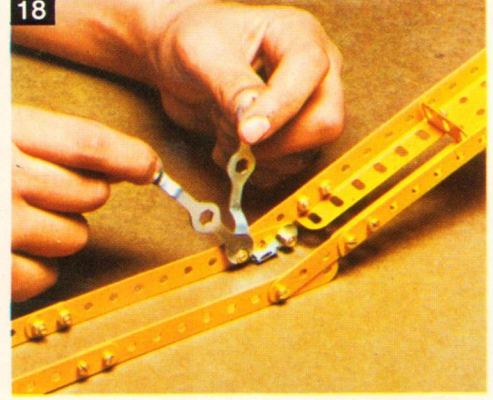
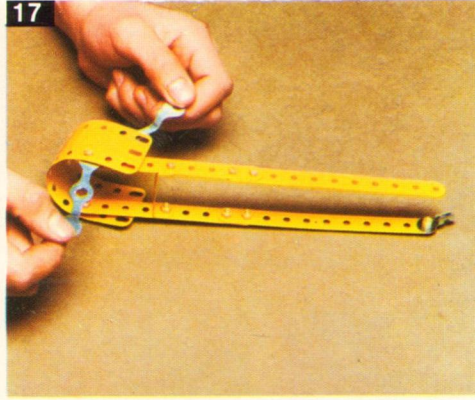
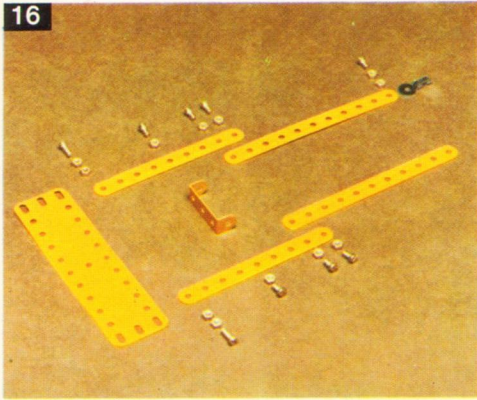
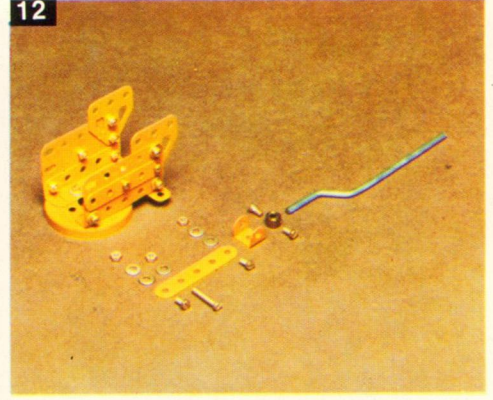
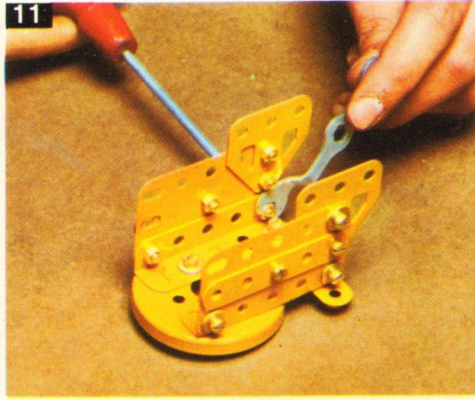
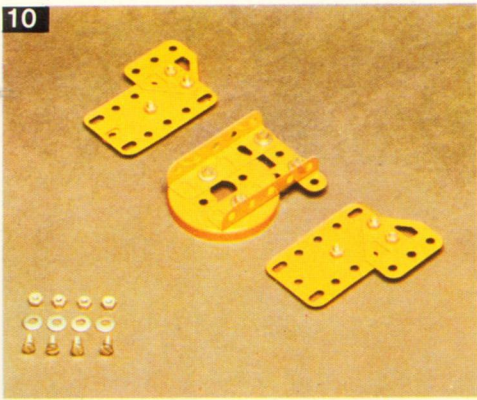


# EXTENDING TOWER TRUCK

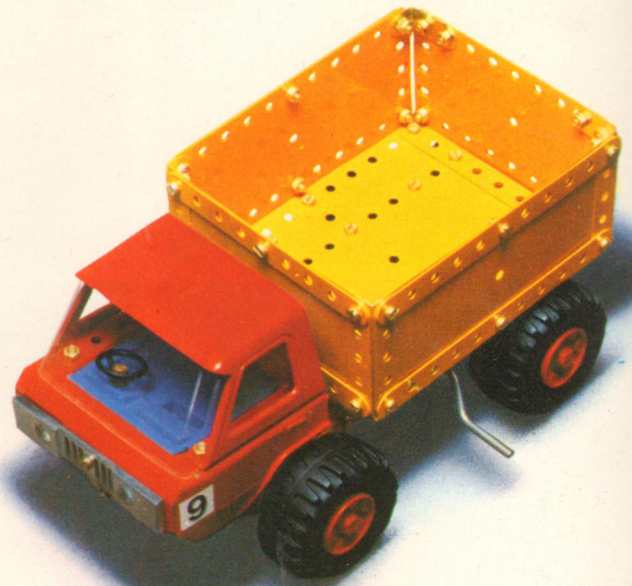
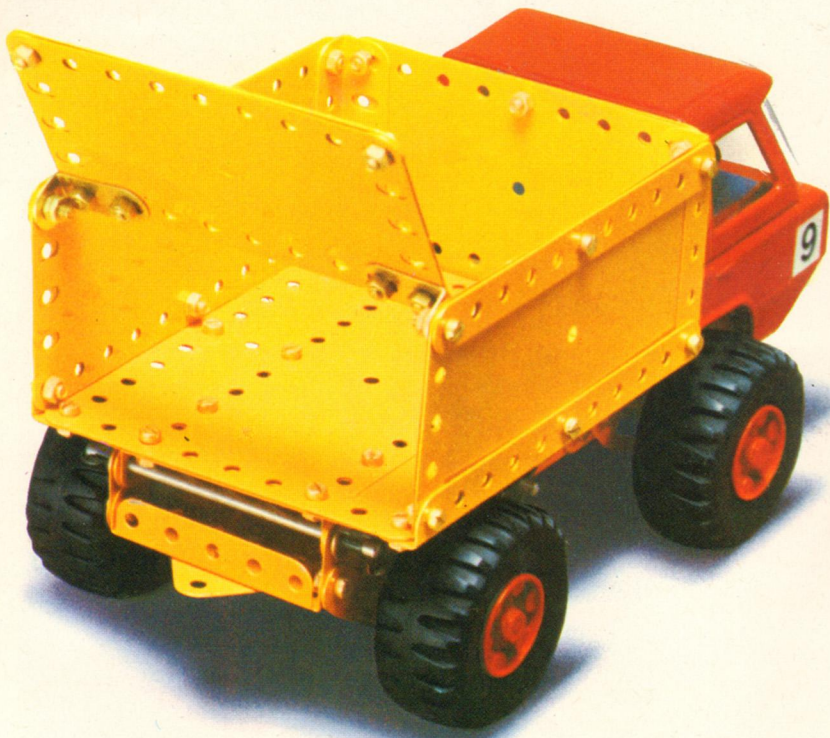






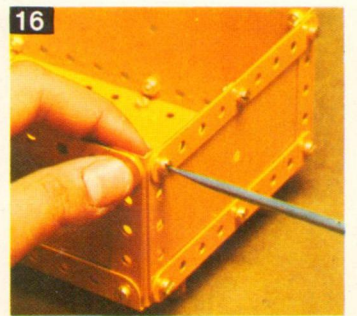
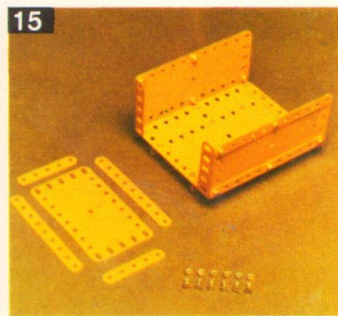
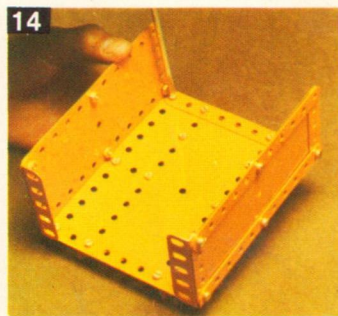
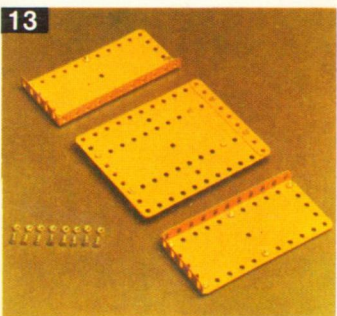
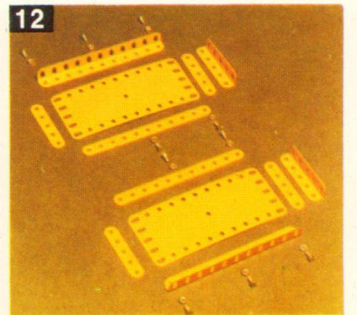
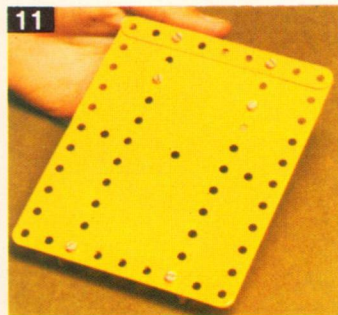
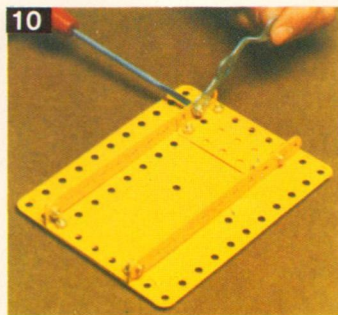
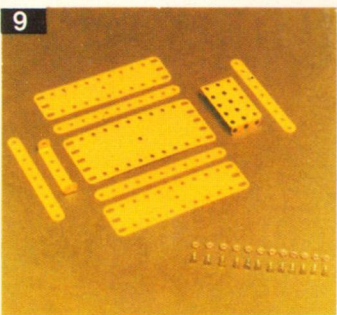
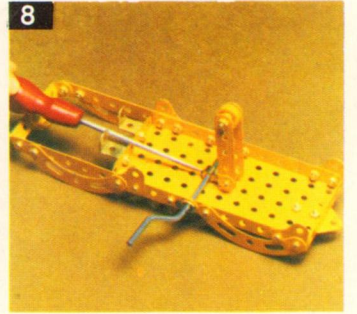
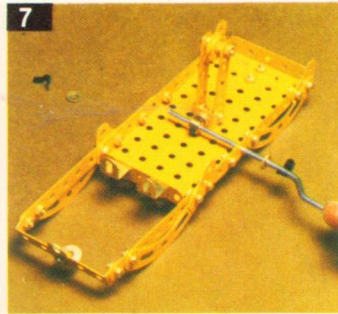
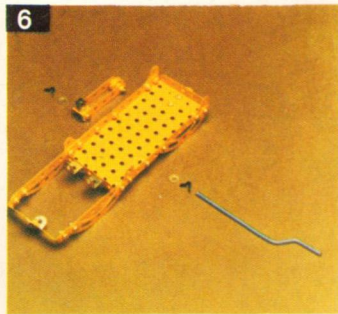
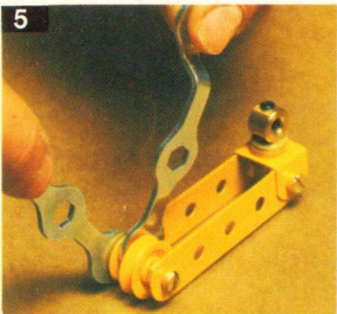
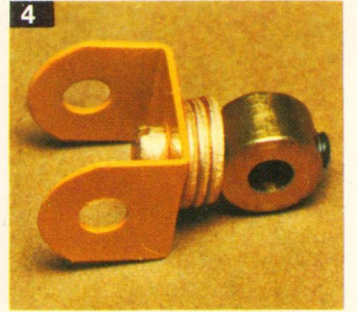
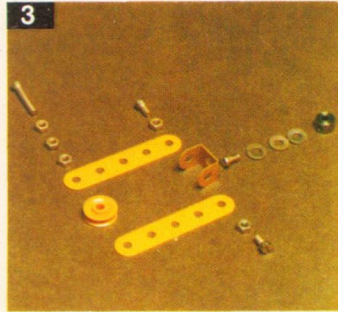
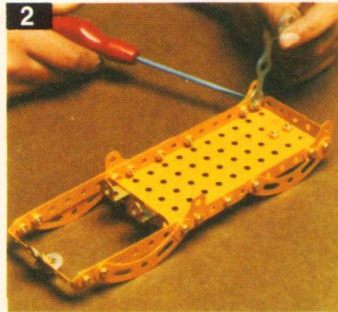
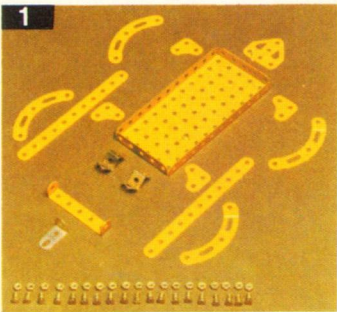
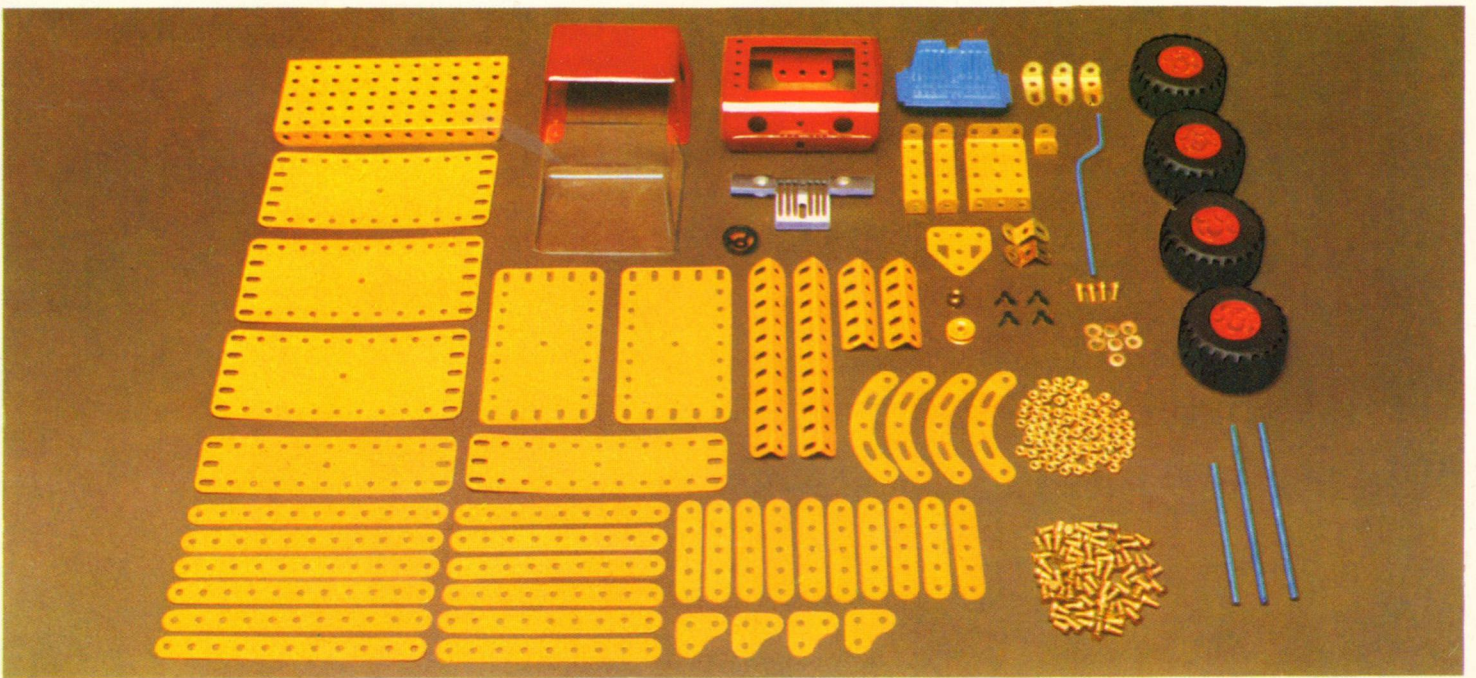




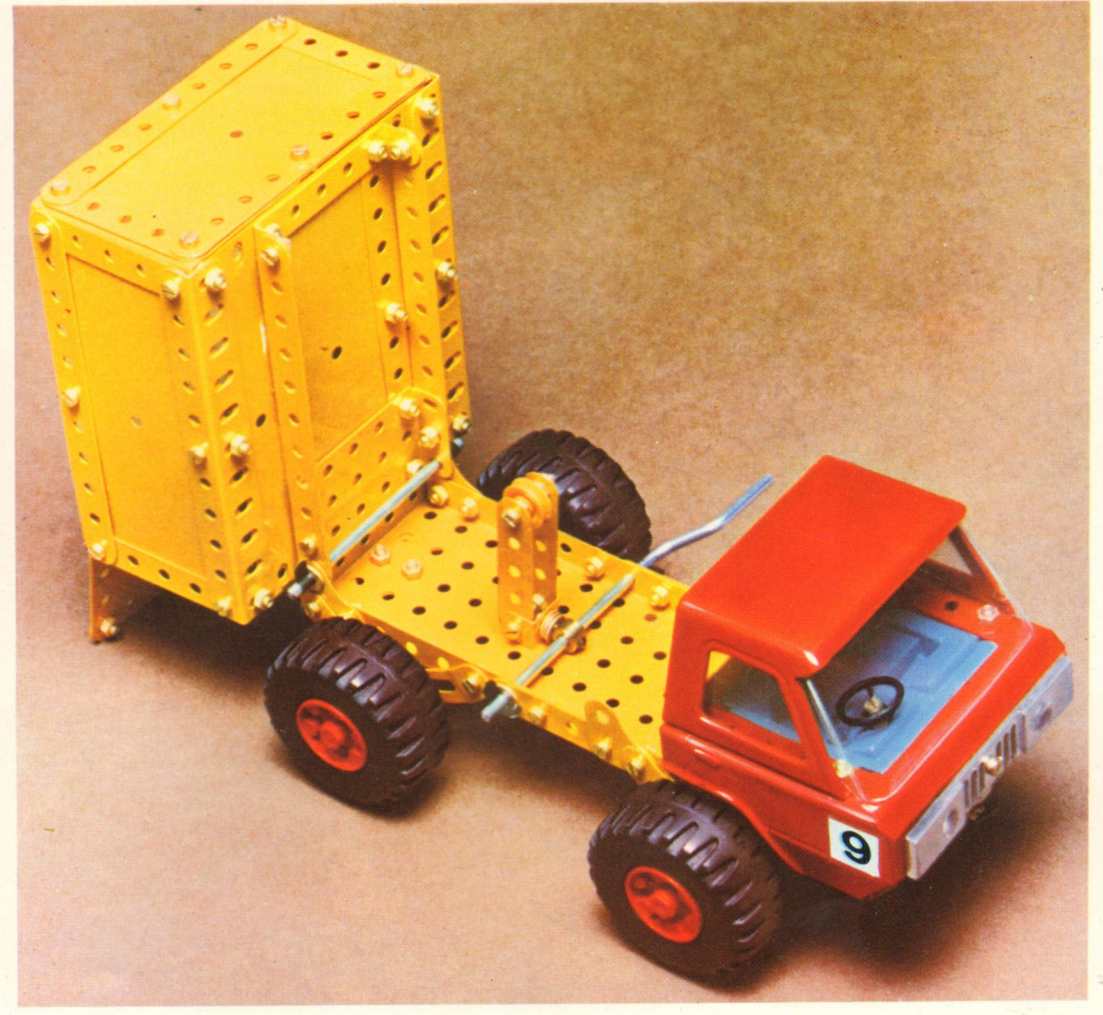
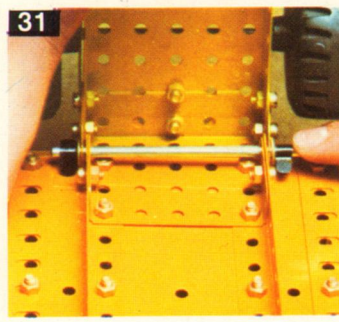
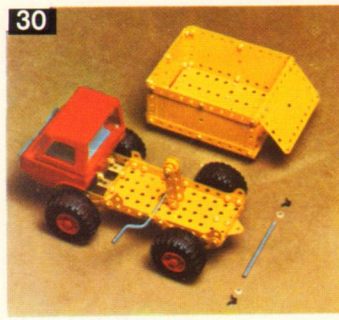
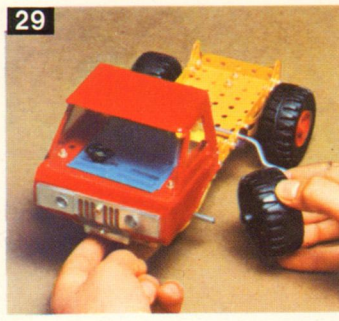
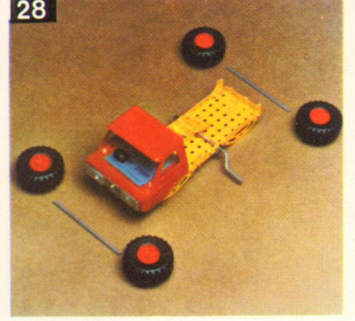
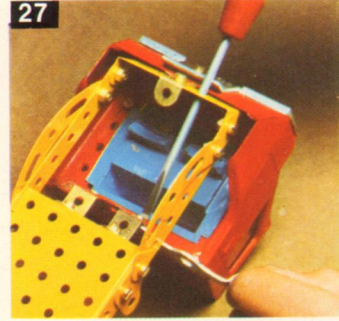
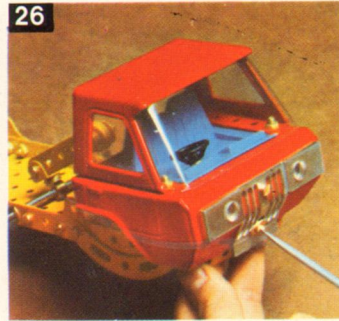
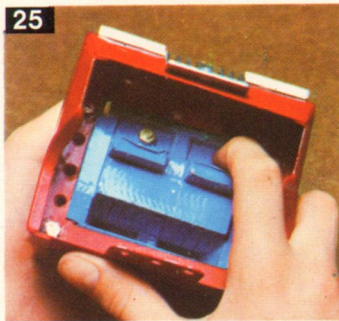
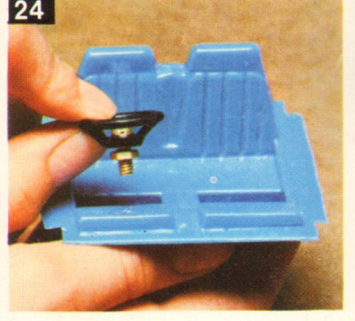
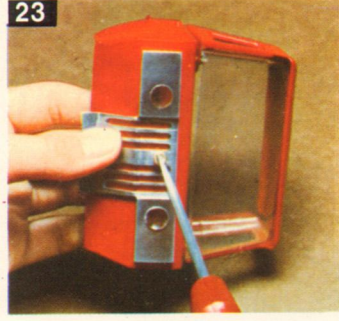
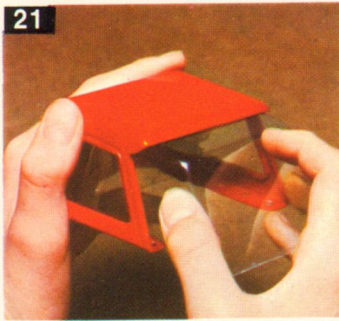
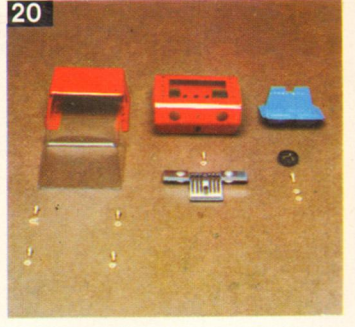
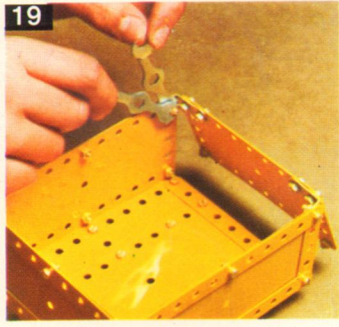
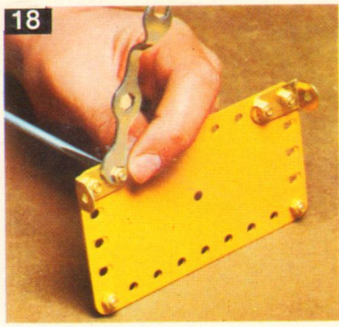
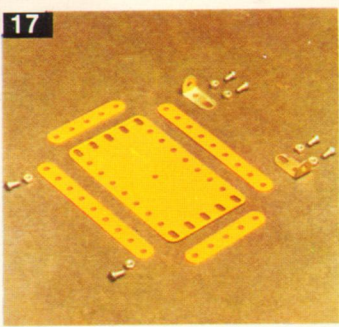


REAR TIPPING TRUCK







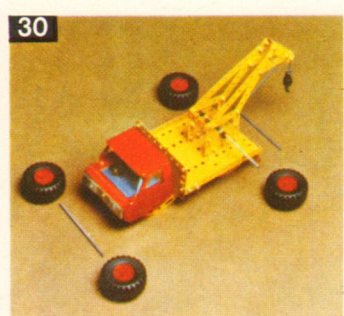
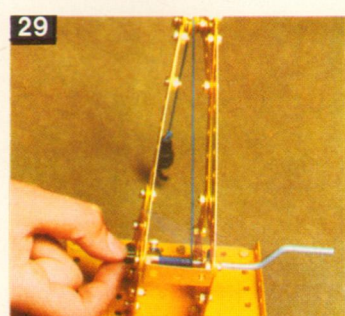
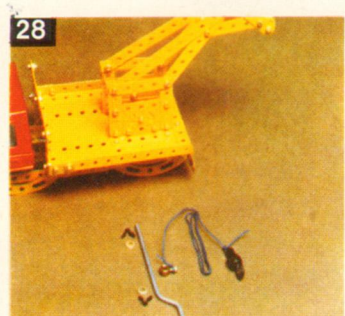
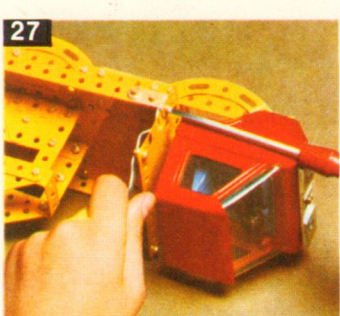
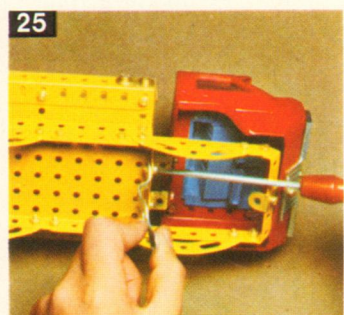
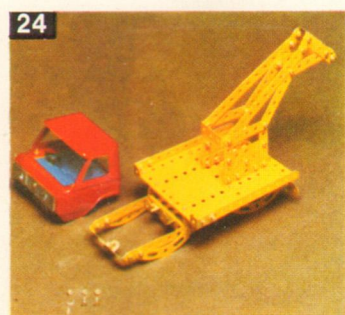
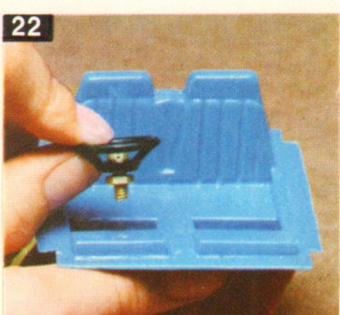
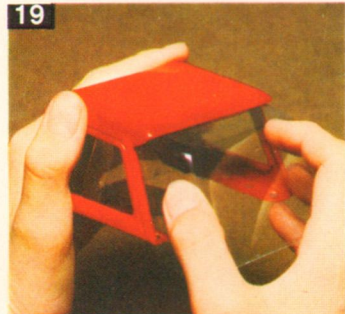
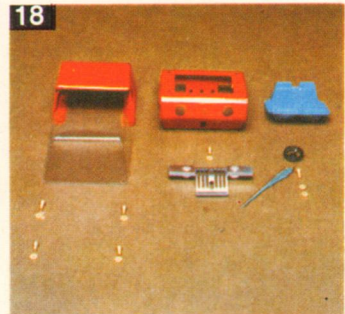
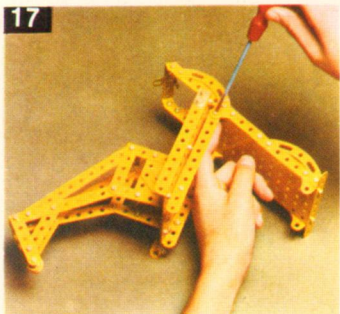
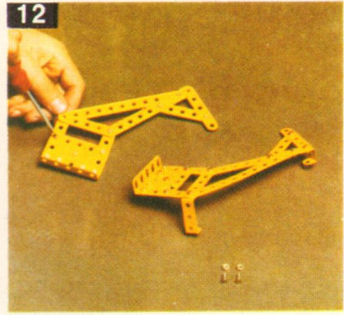
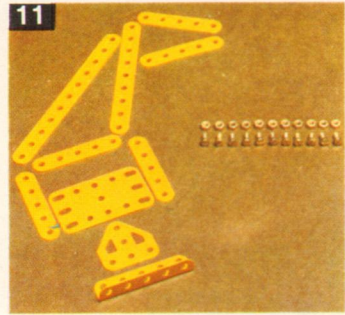
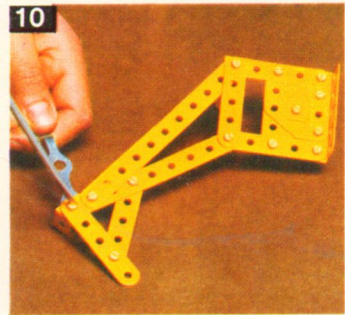
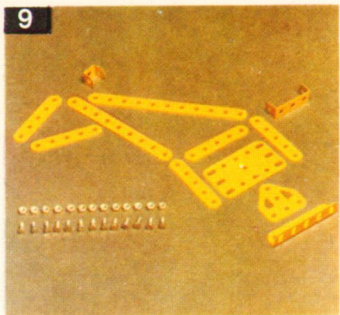
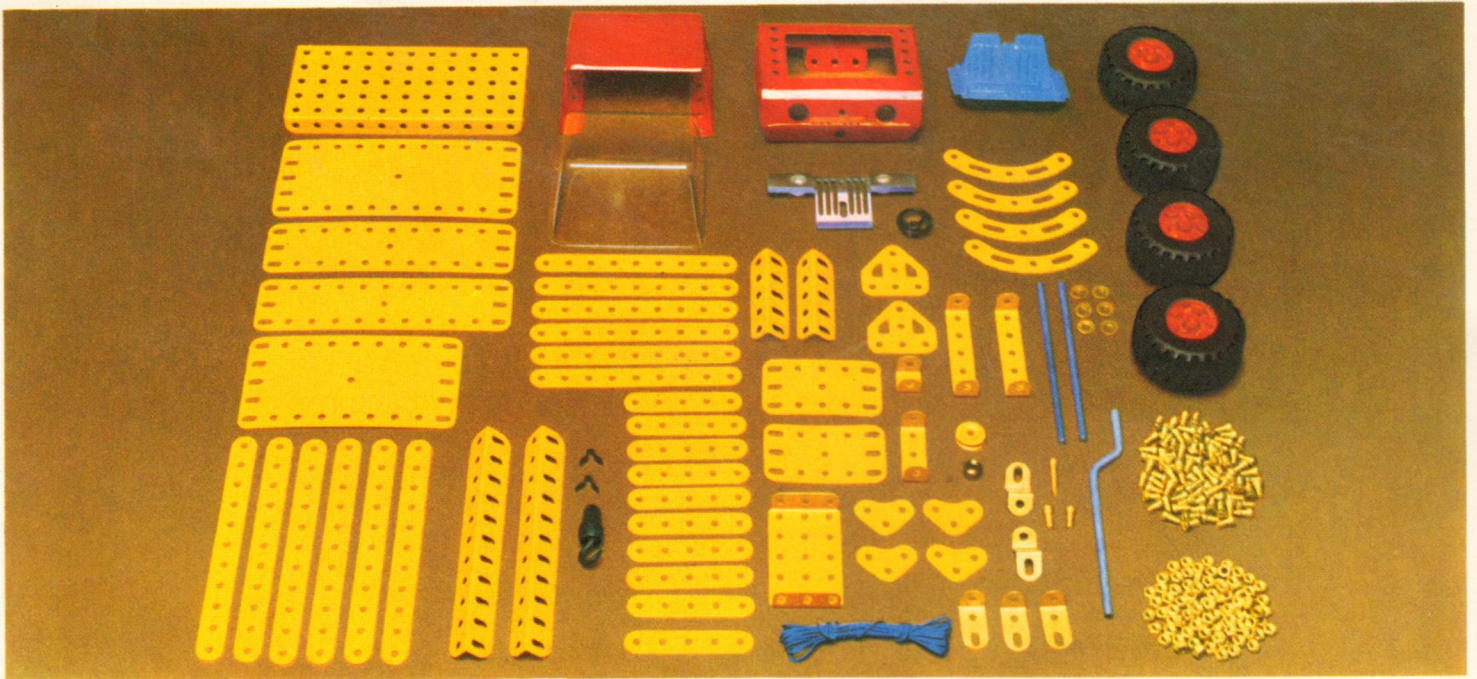




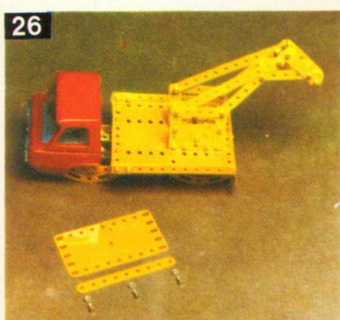
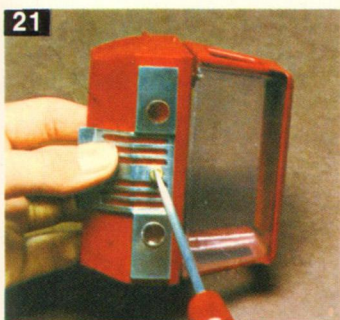
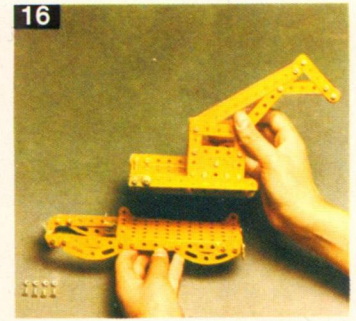
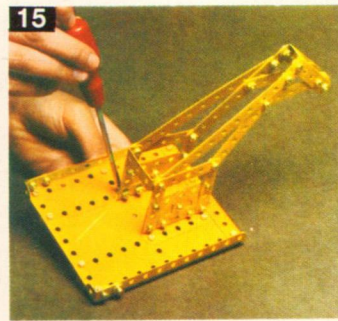
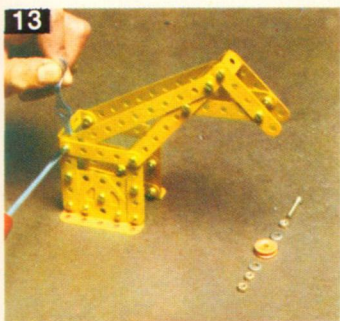
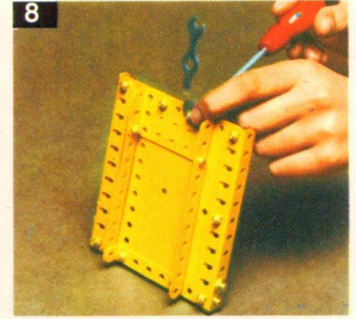
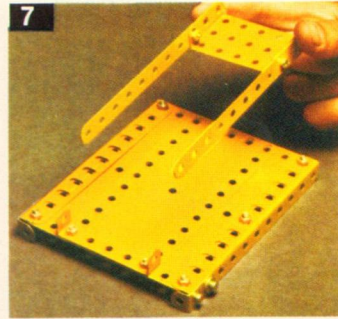
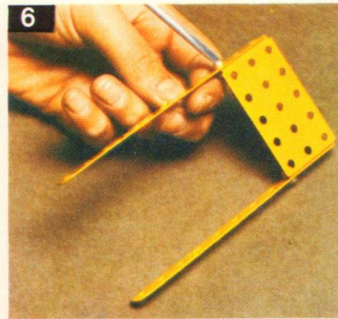
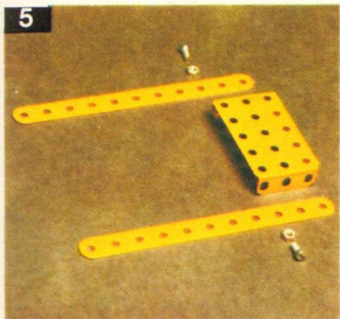
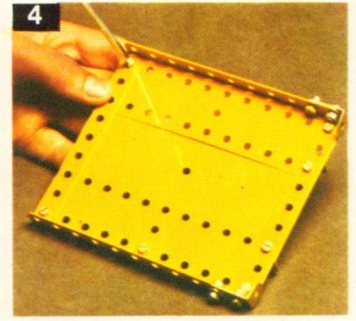
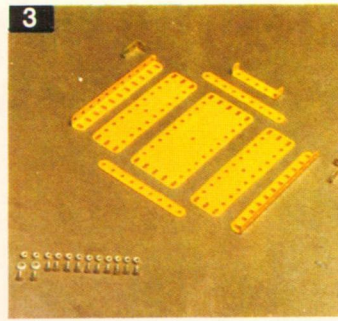
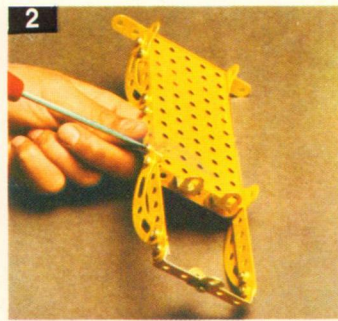
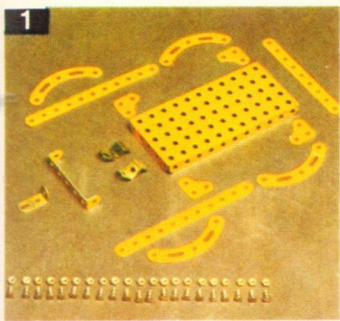


# RECOVERY VEHICLE

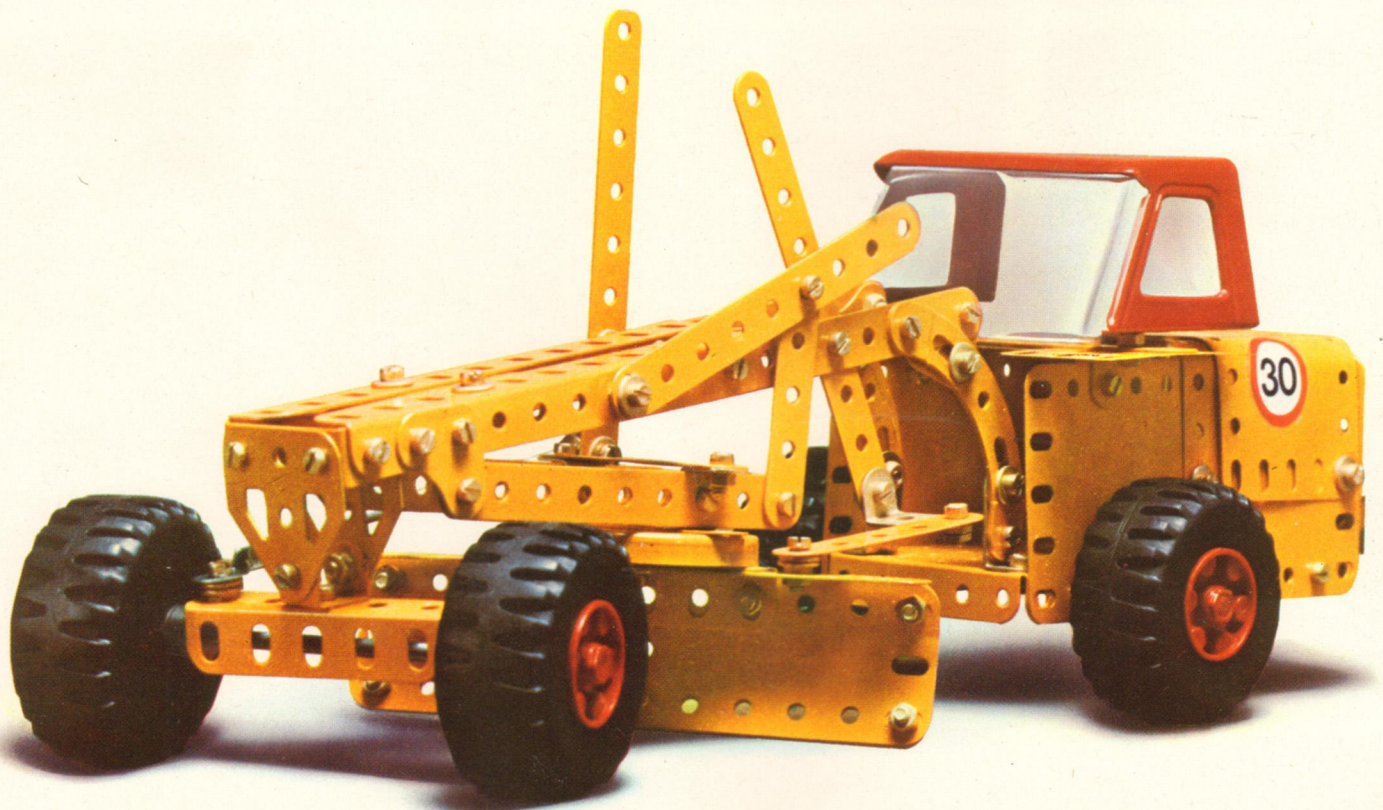
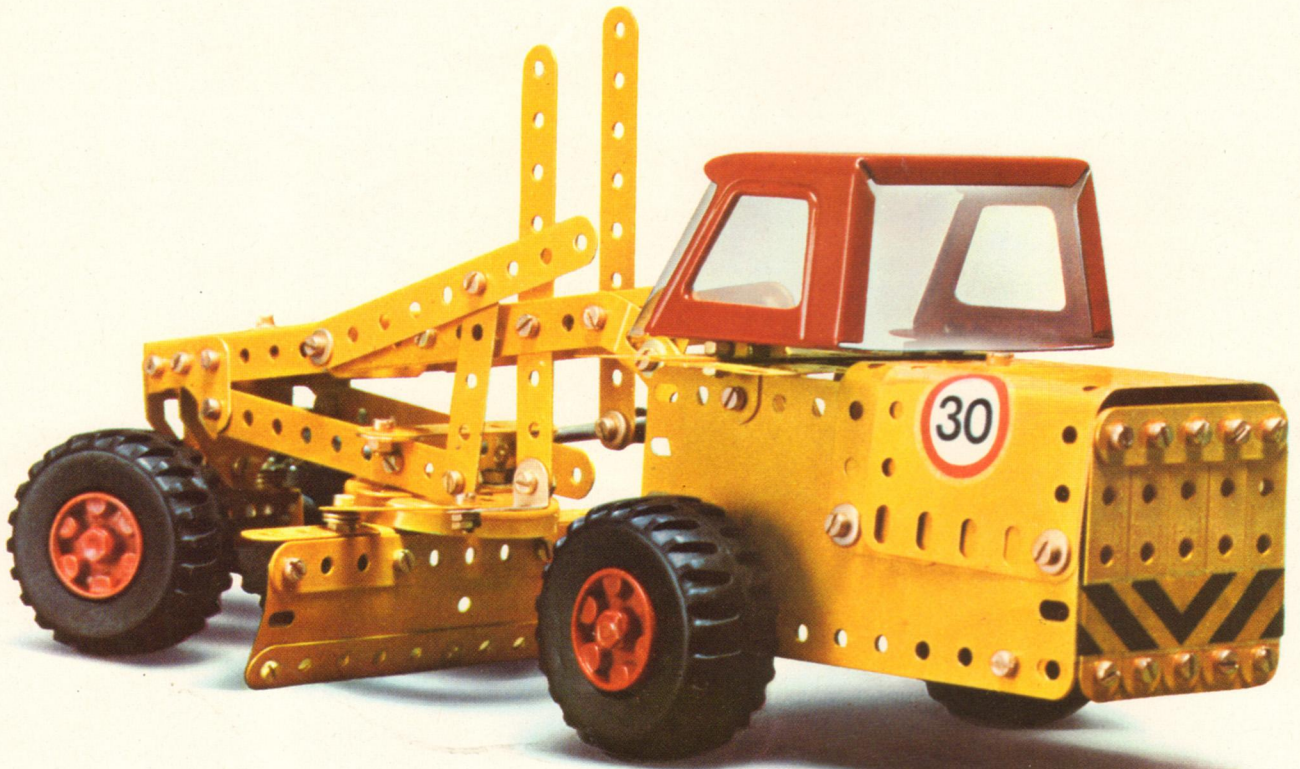






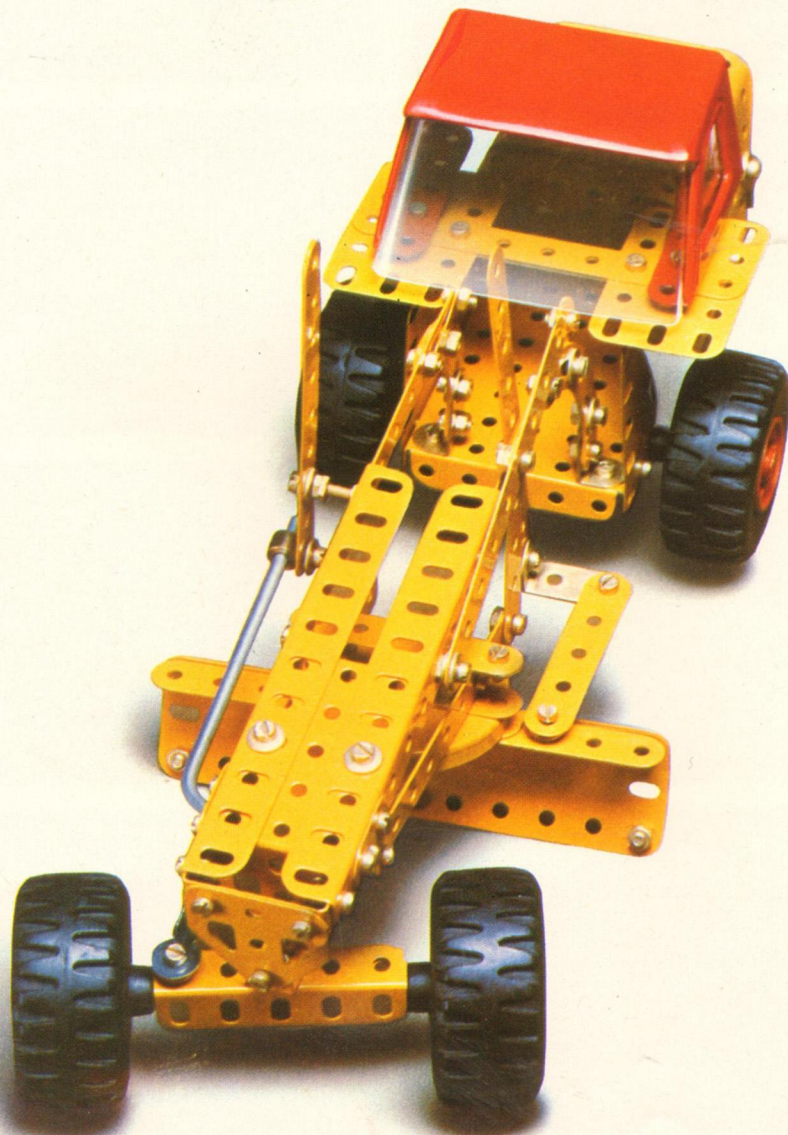
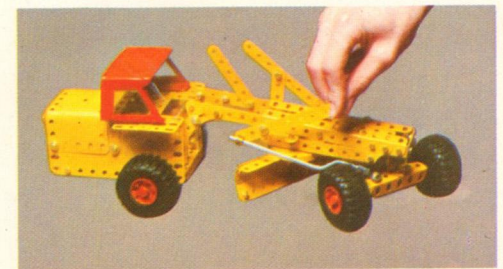
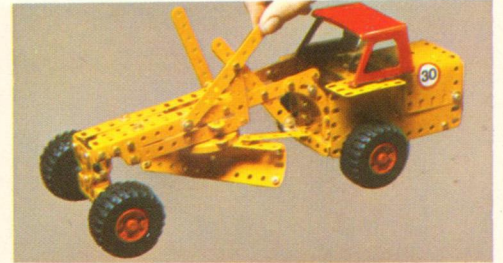
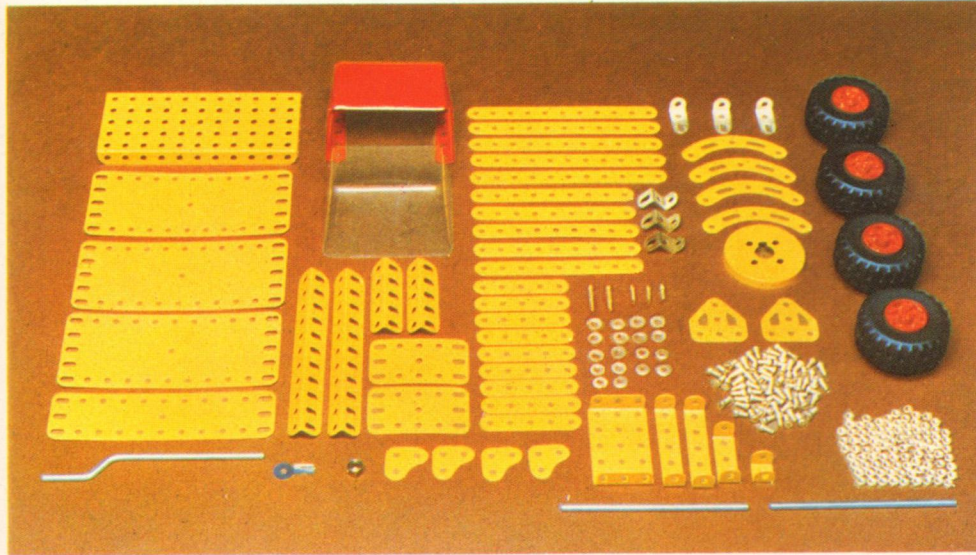
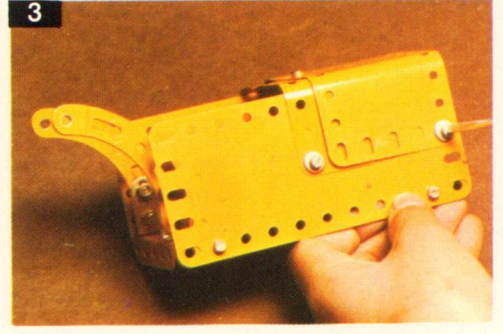
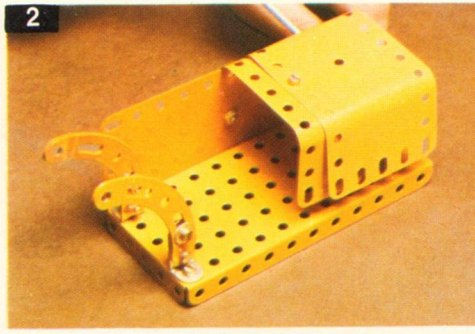
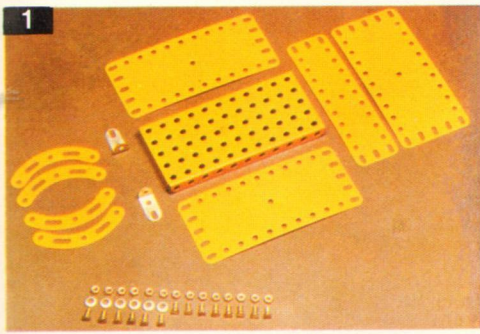




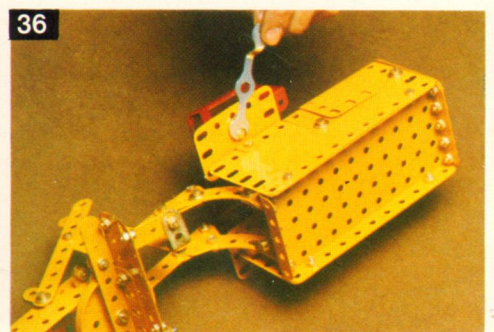
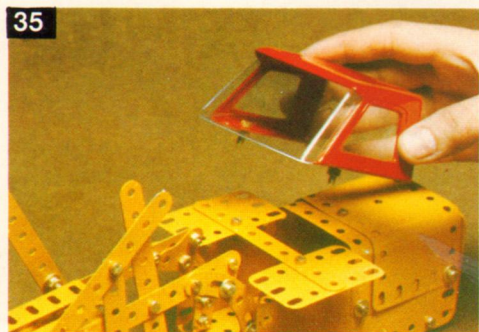
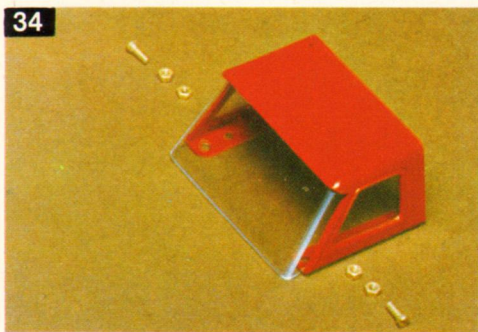
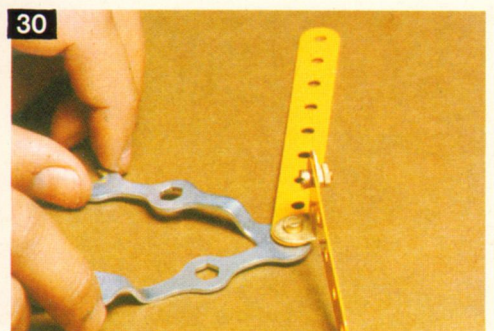
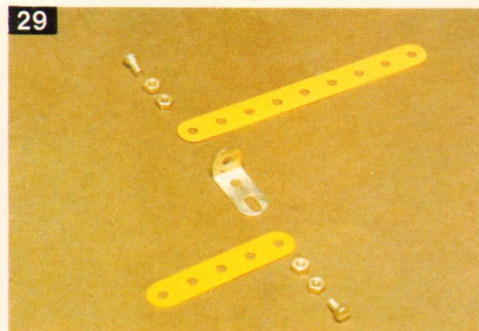
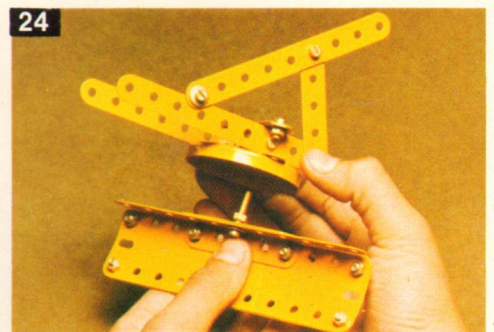
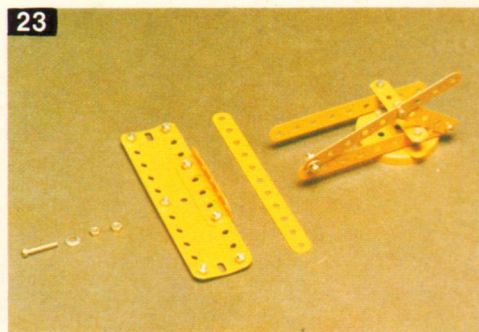
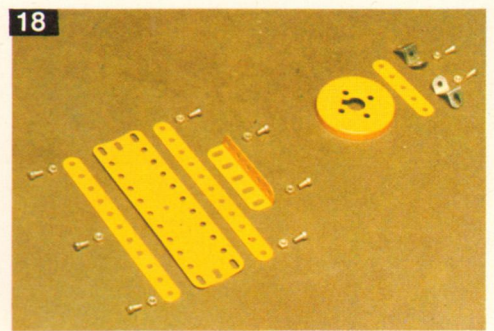
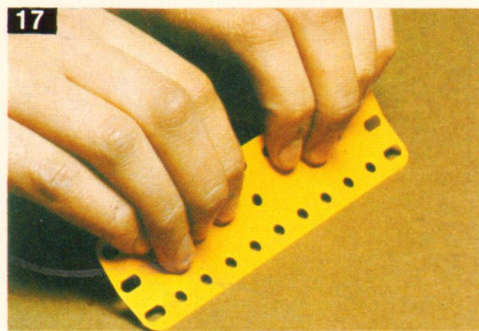
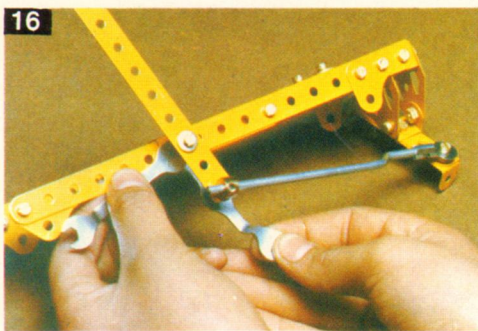
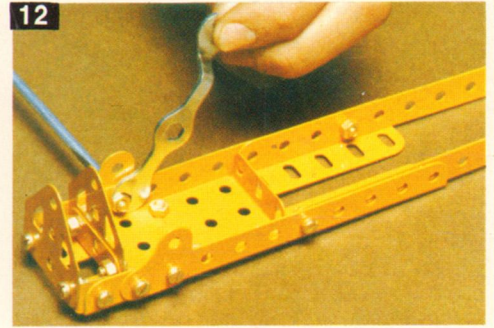
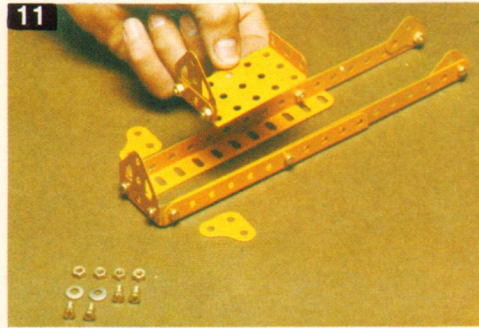
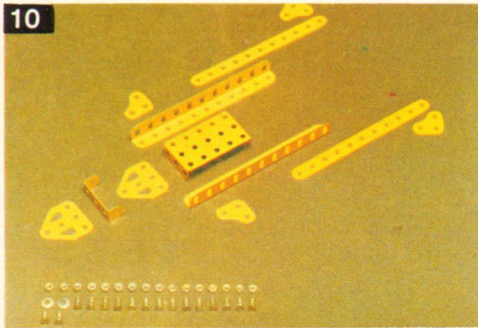
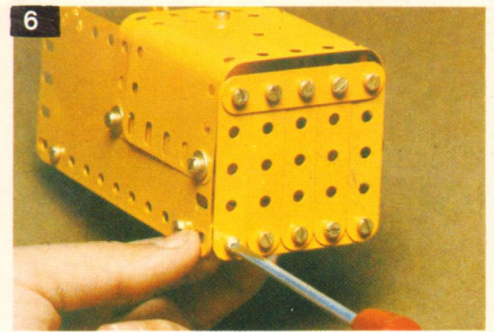
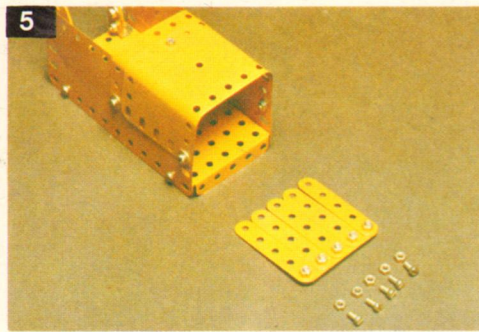
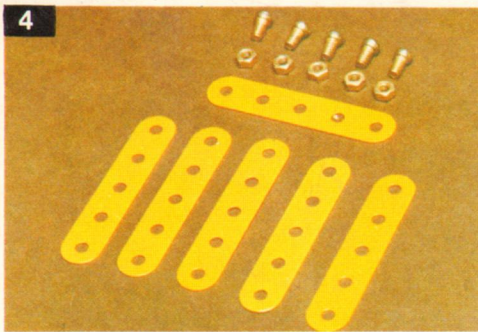


# ROAD GRADER

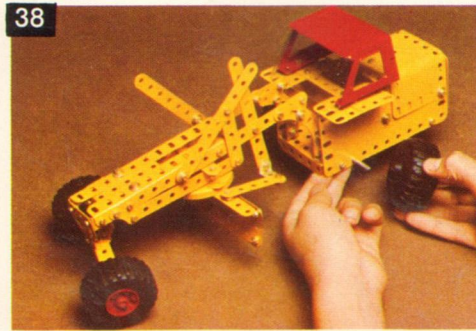
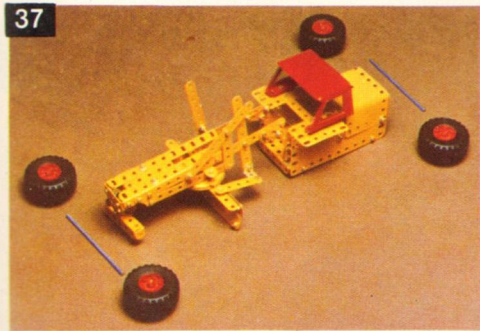
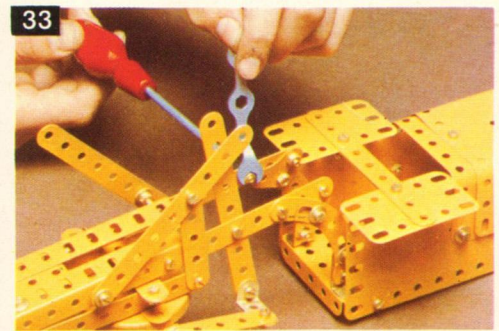
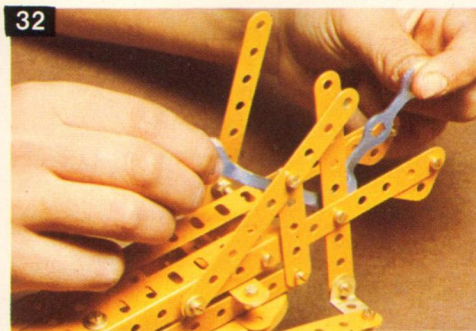
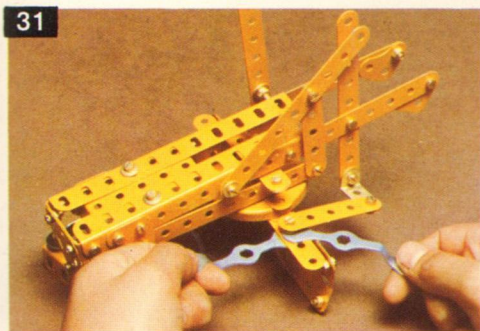
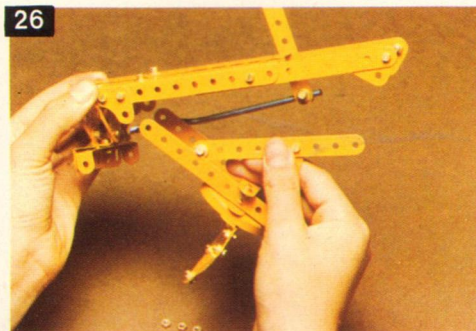
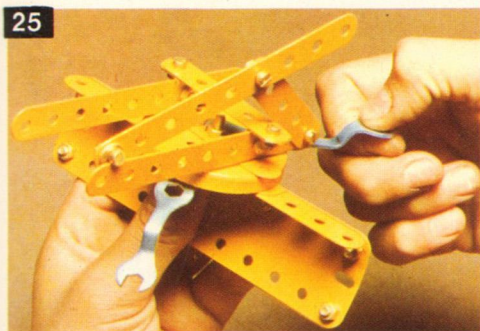
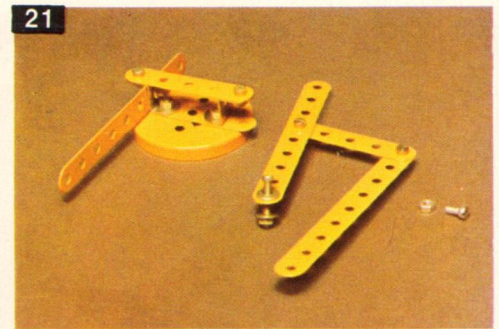
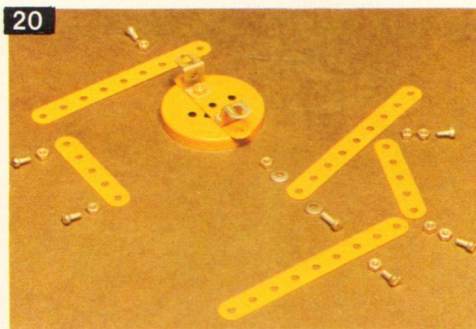
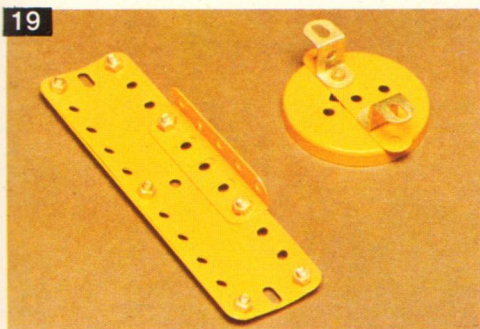
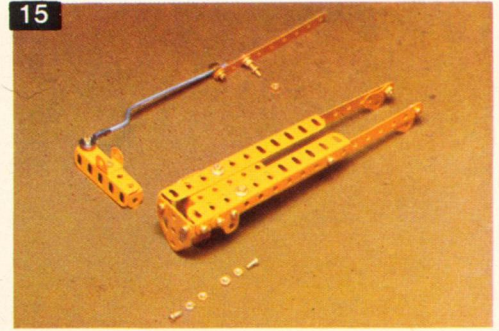
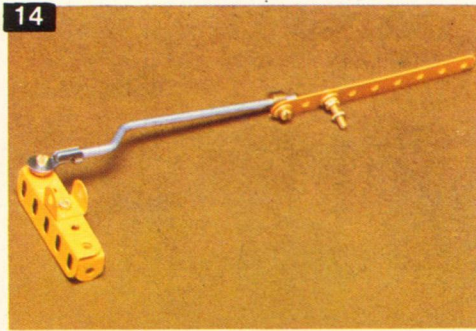
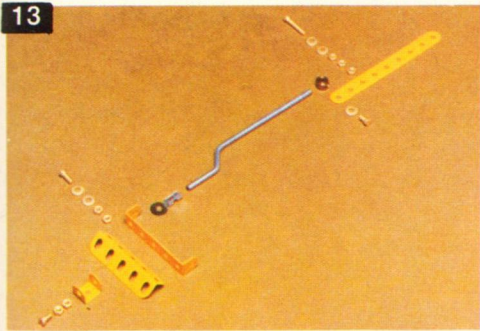
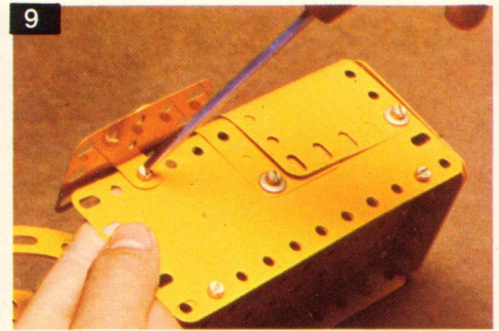
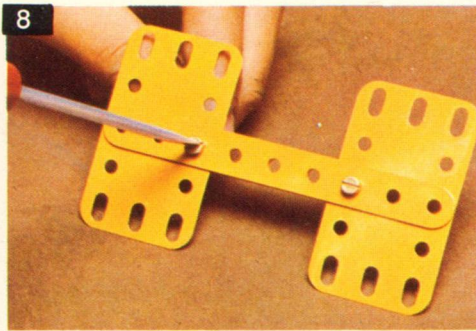
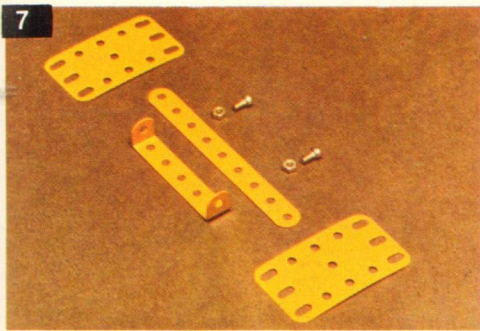










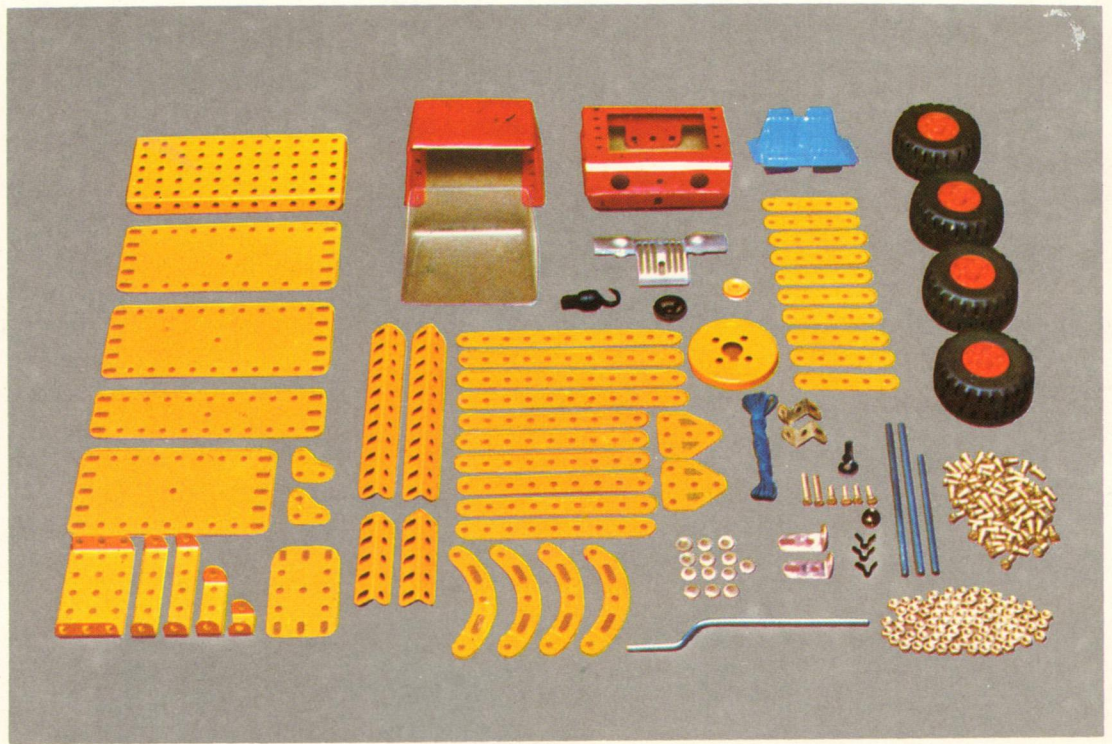




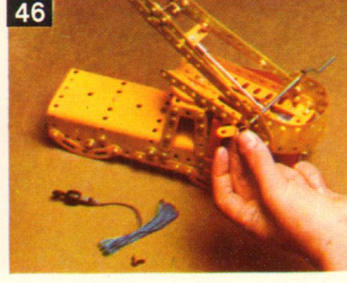
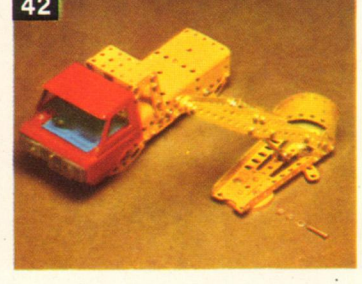
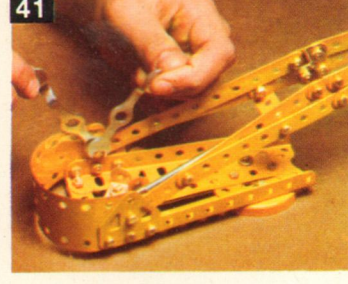
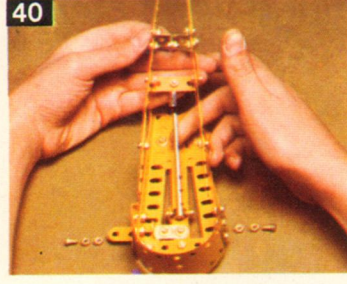
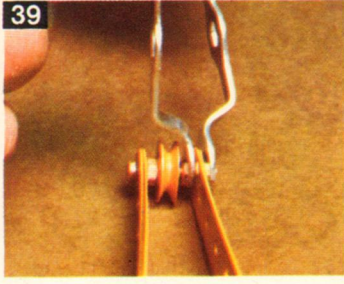
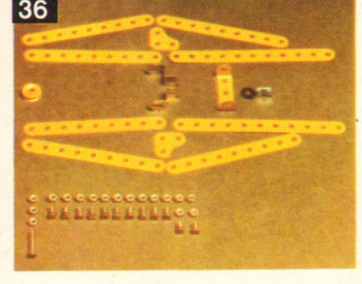
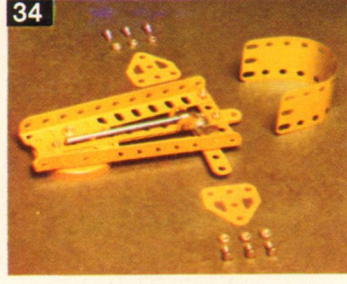
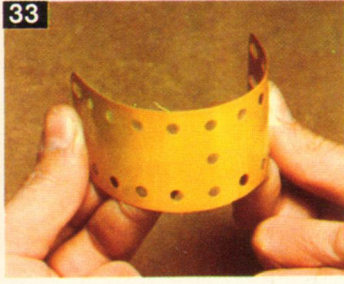
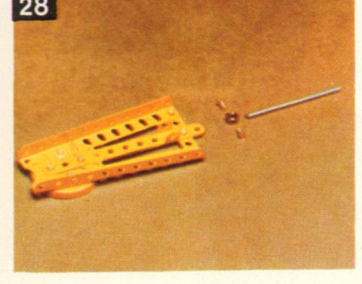
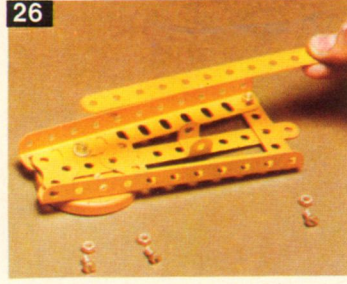
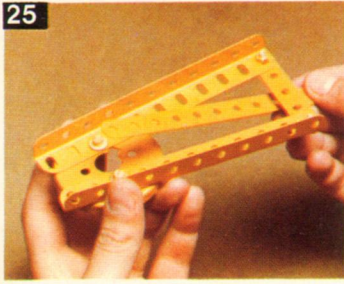
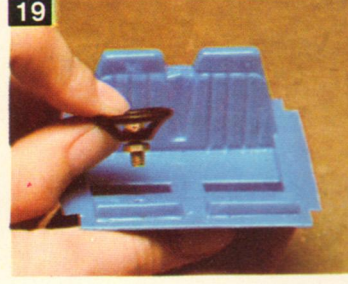
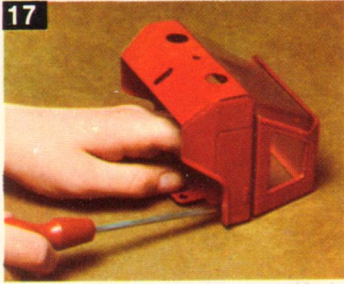
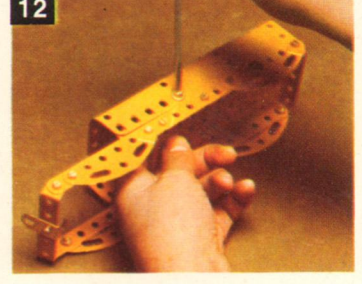
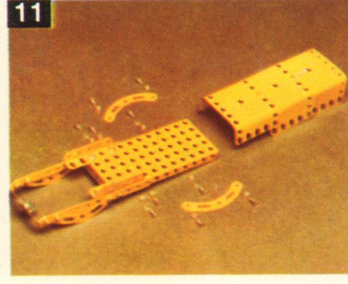
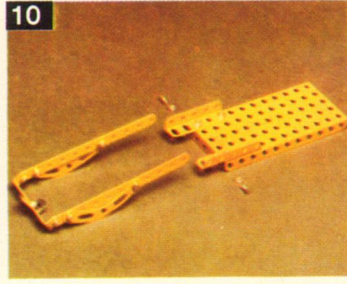
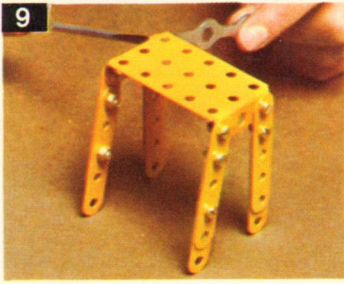
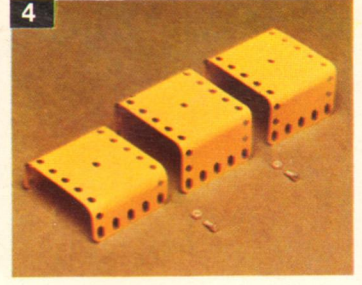
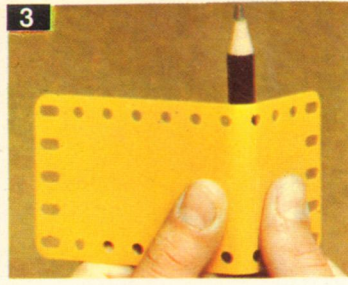
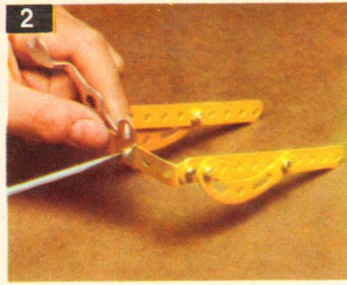
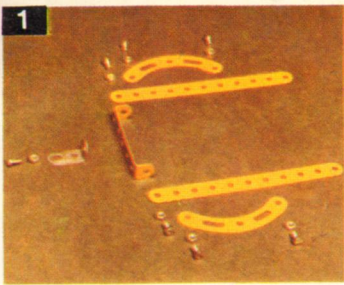
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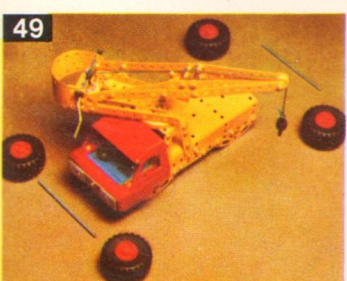
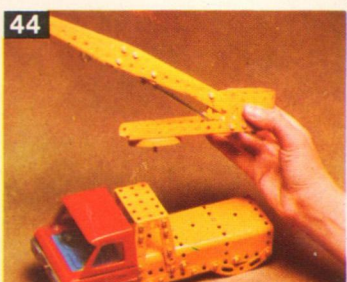
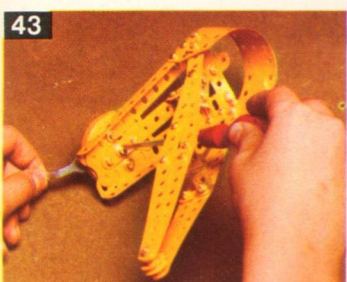
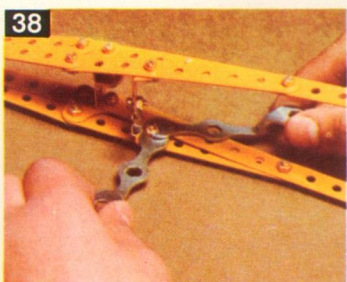
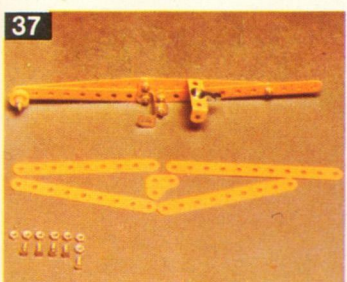
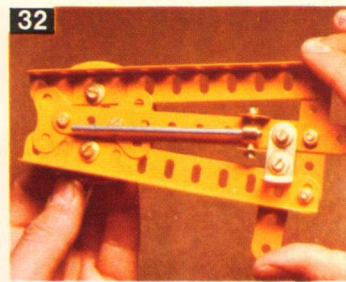
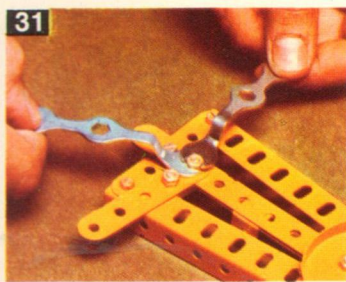
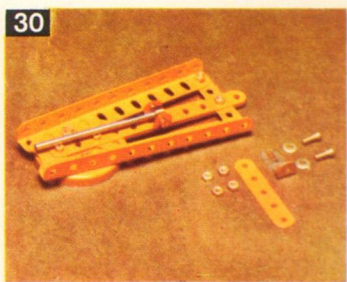
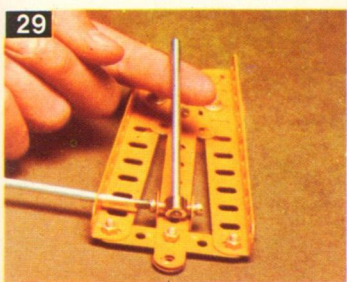
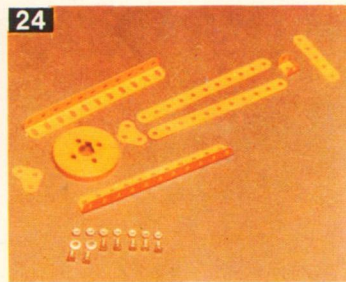
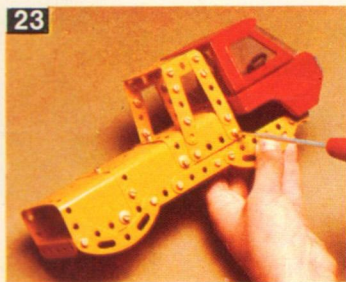
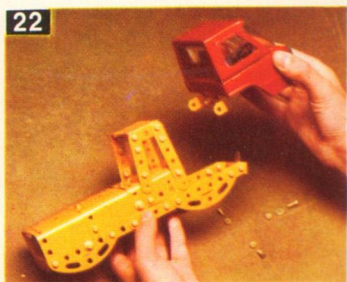
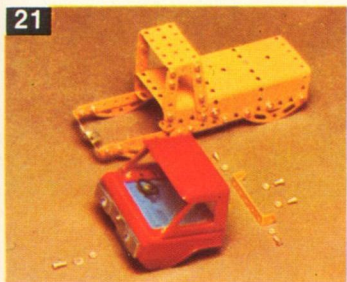
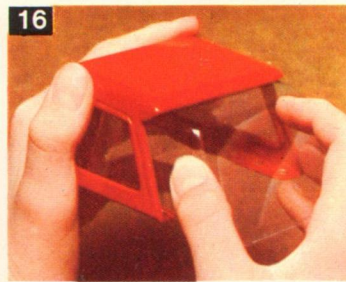
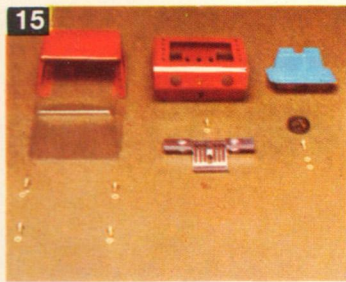
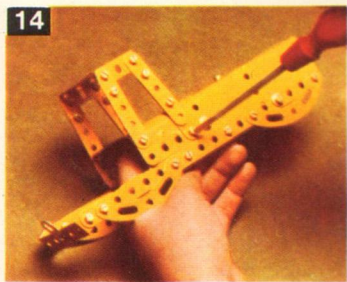
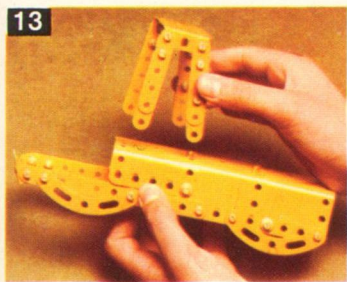
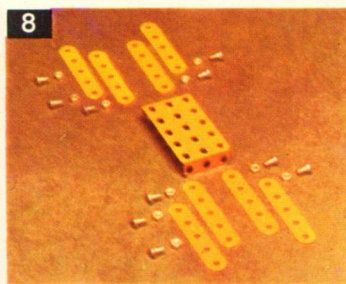
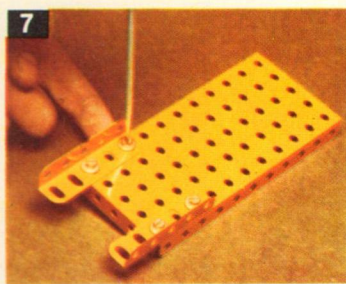
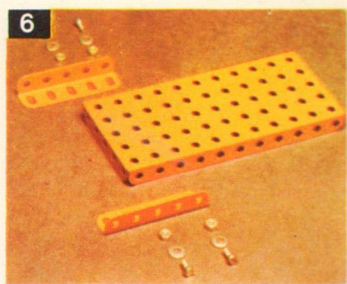
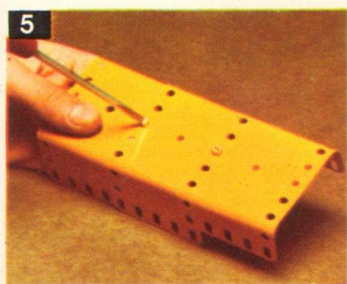




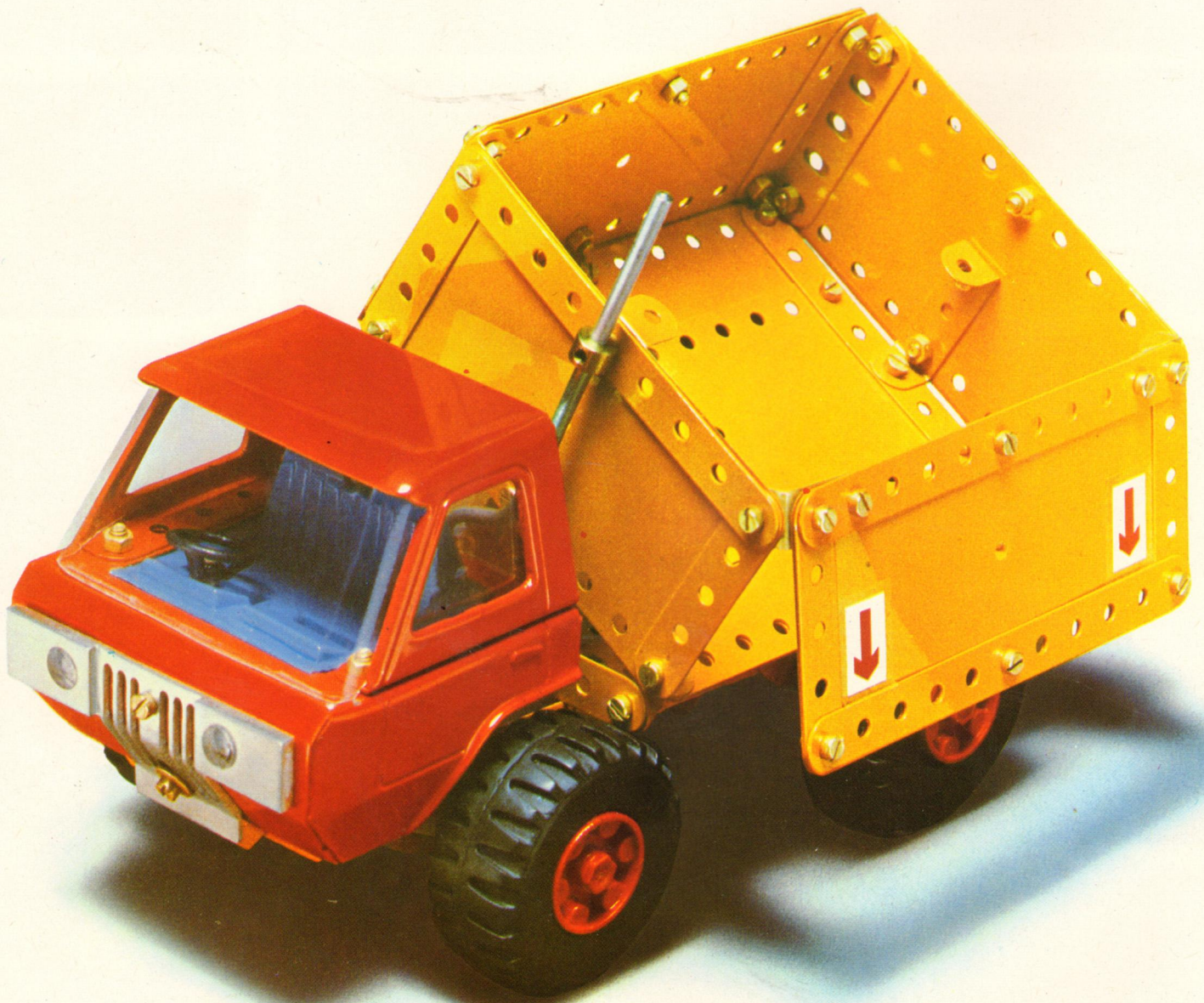
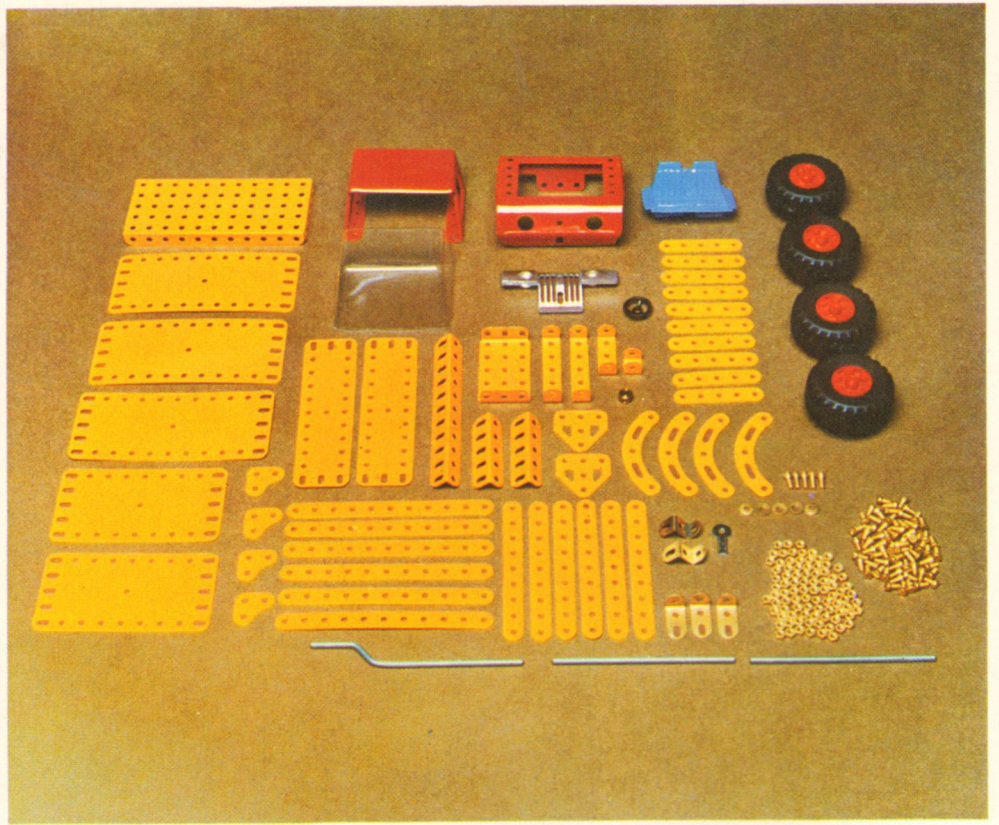






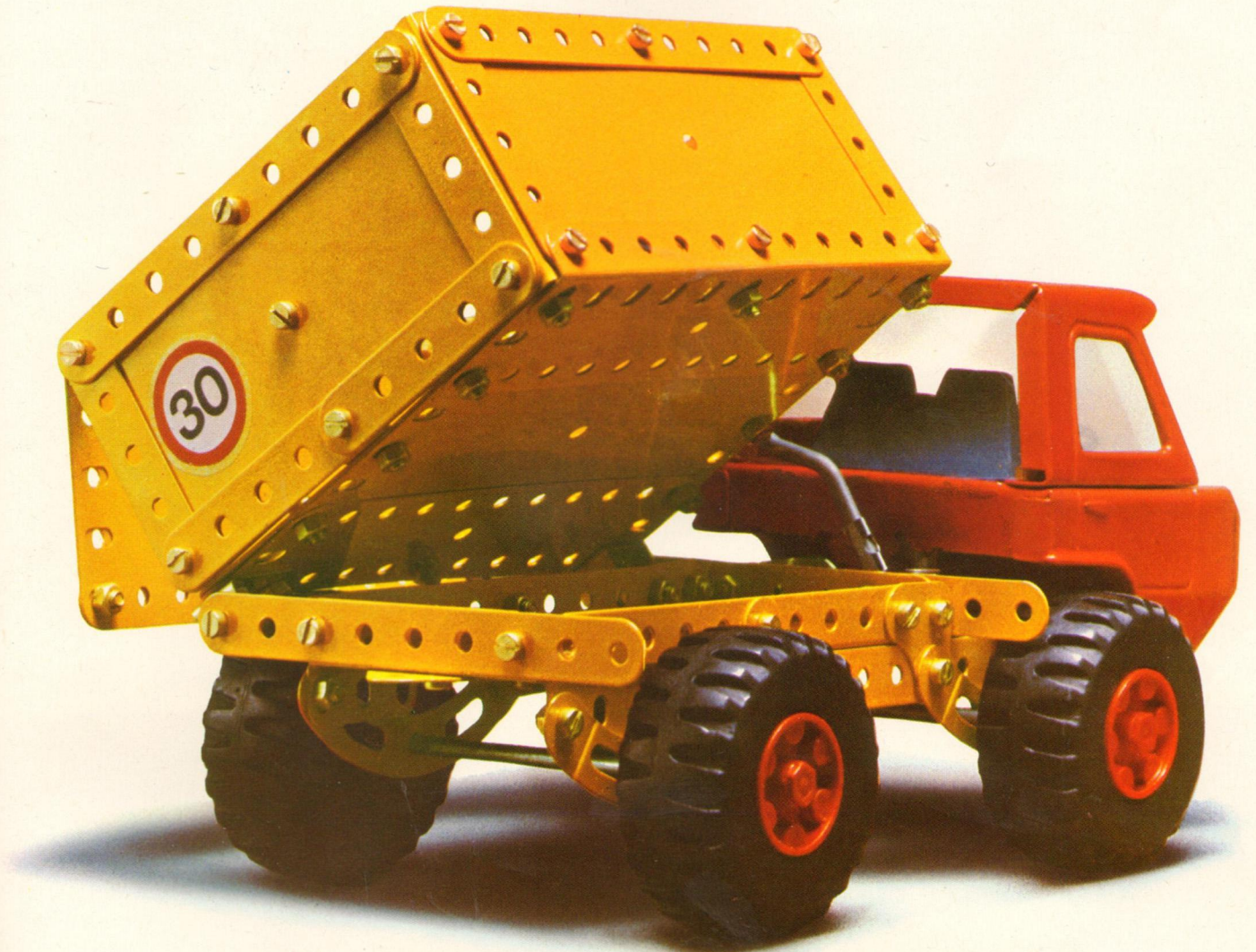
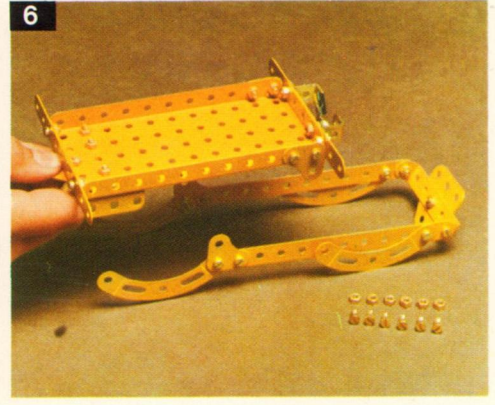
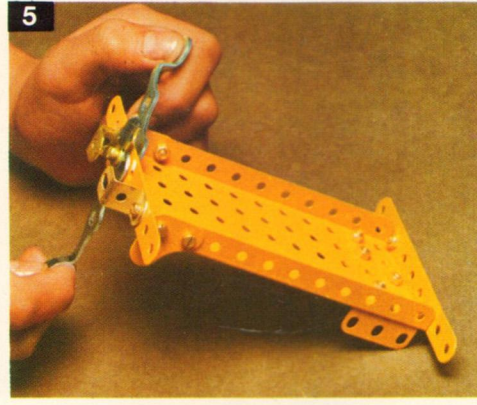
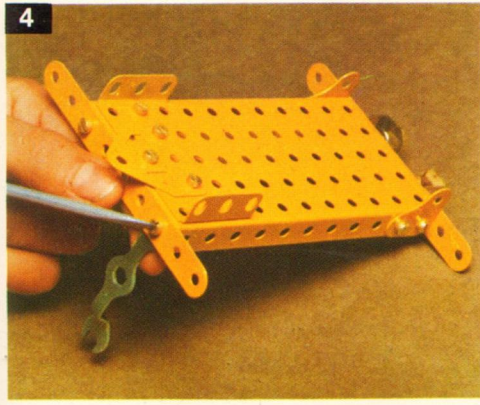
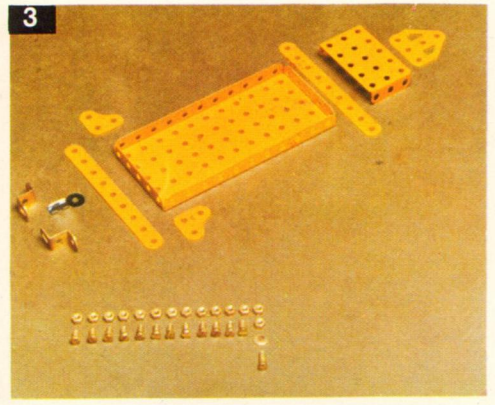
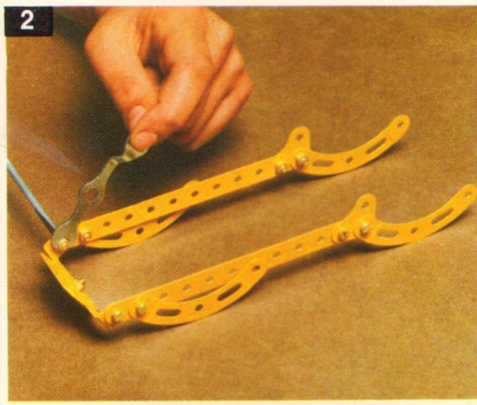
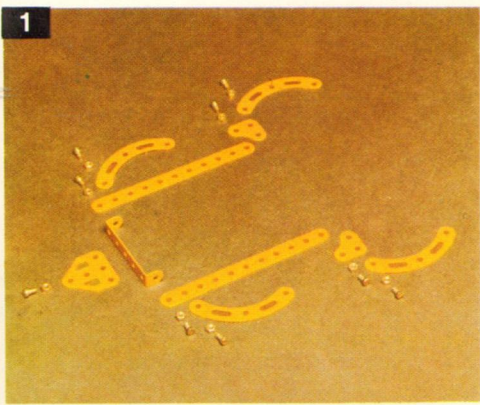




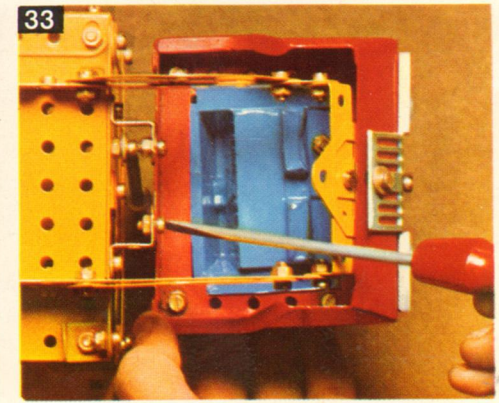
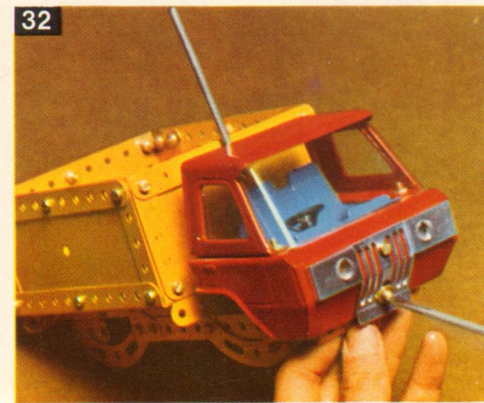
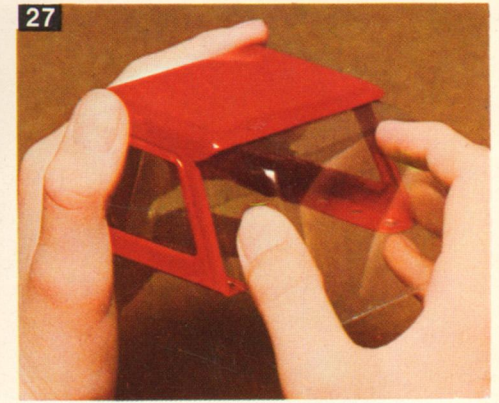
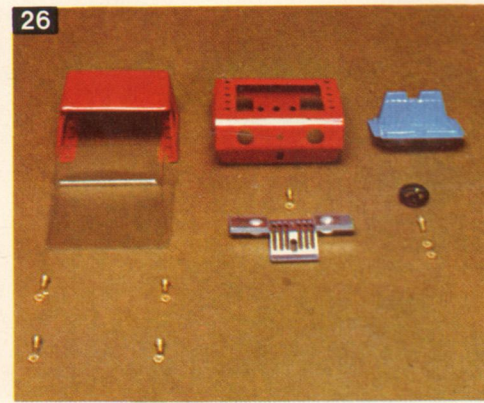
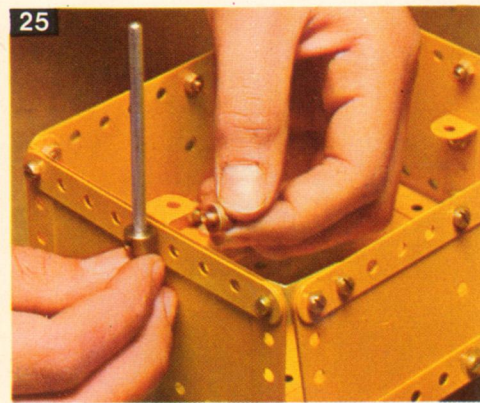
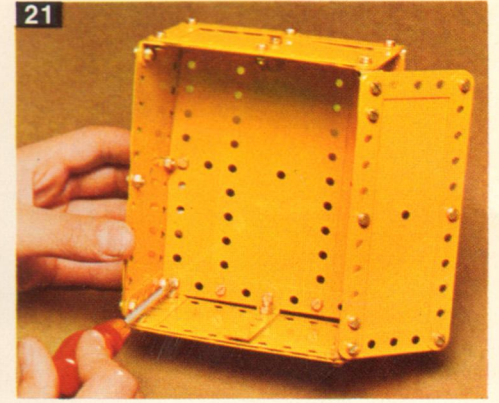
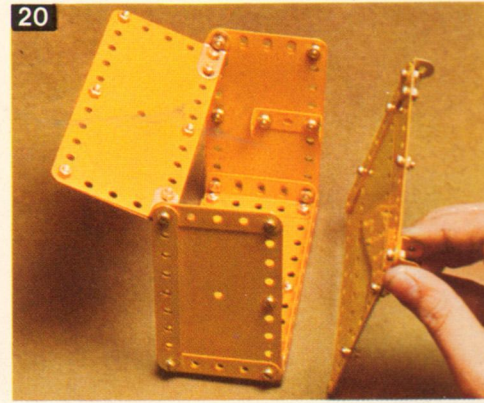
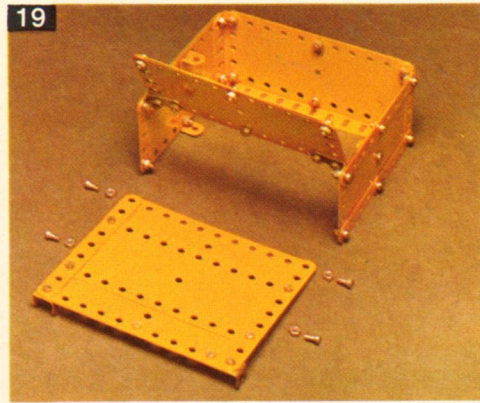
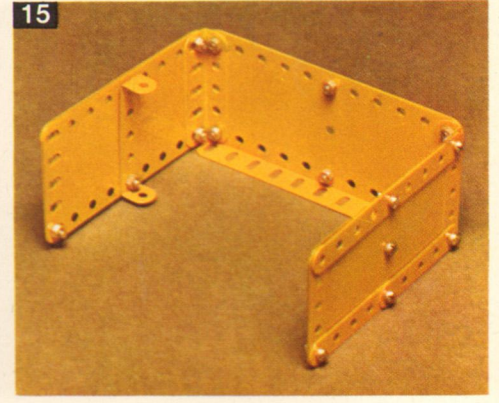
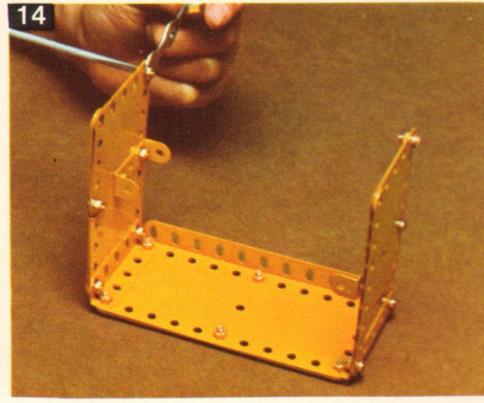
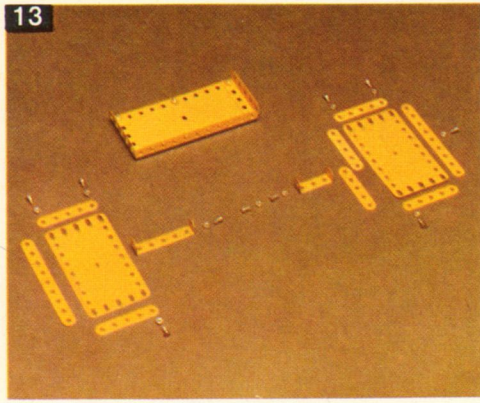
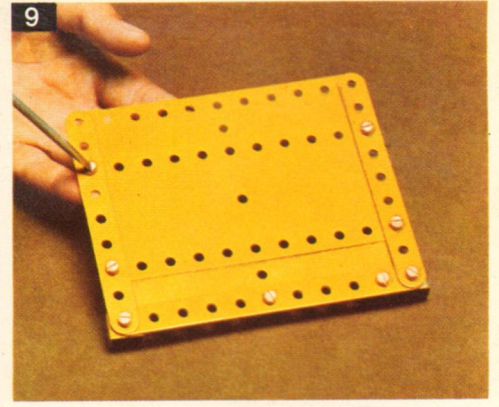
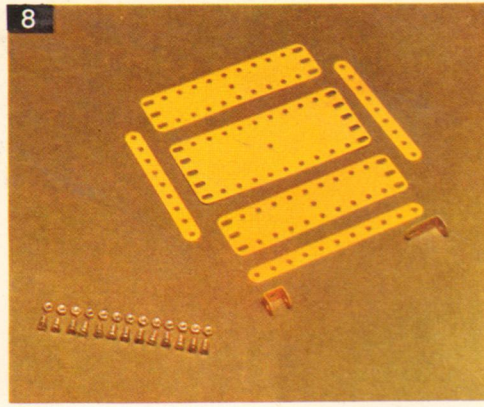
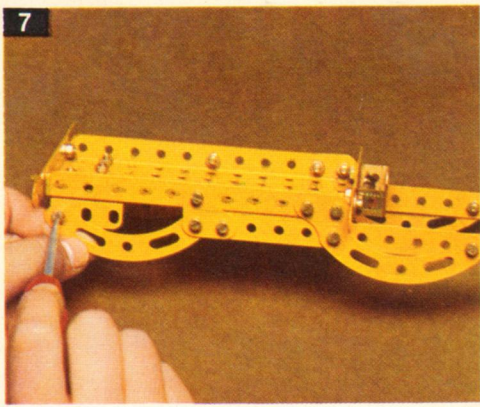


SIDE TIPPING TRUCK

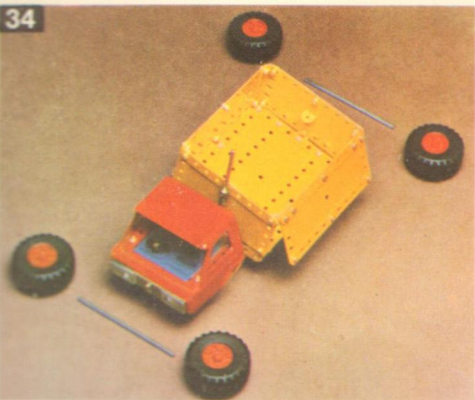
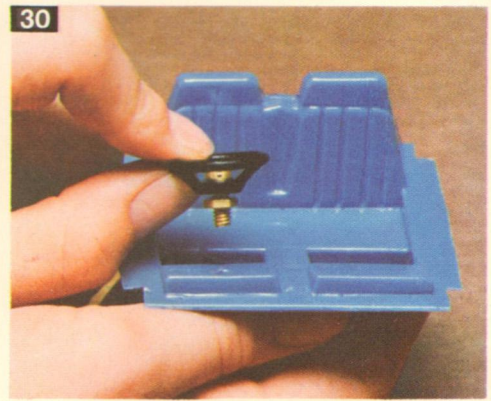
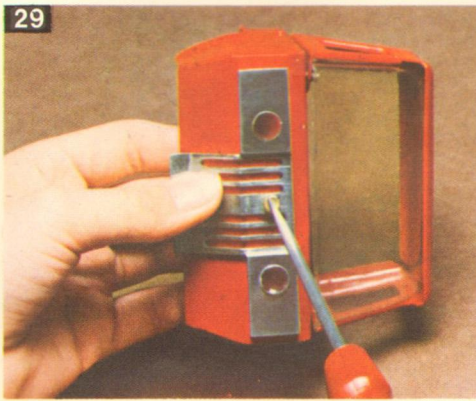
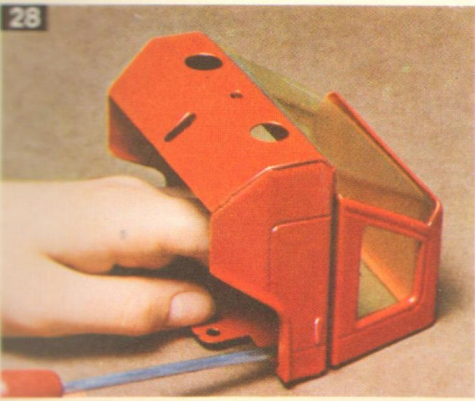
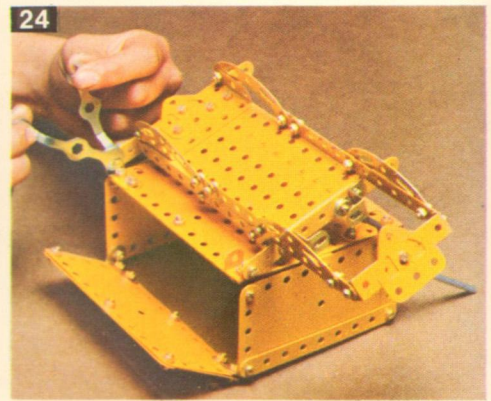
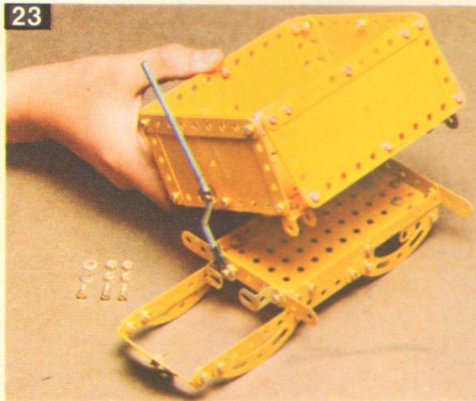
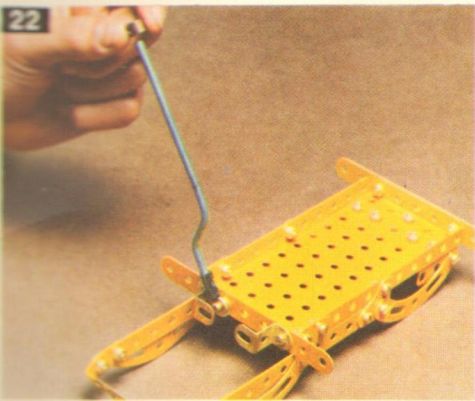
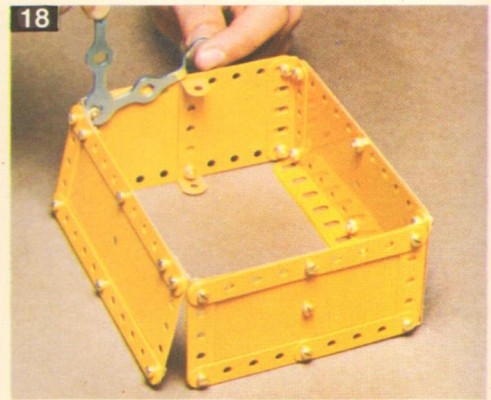
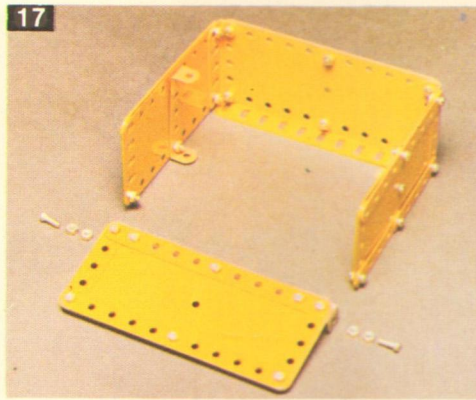
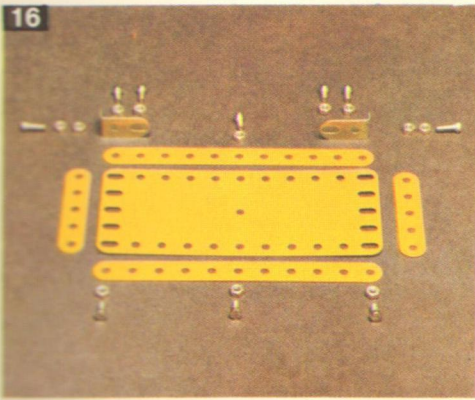
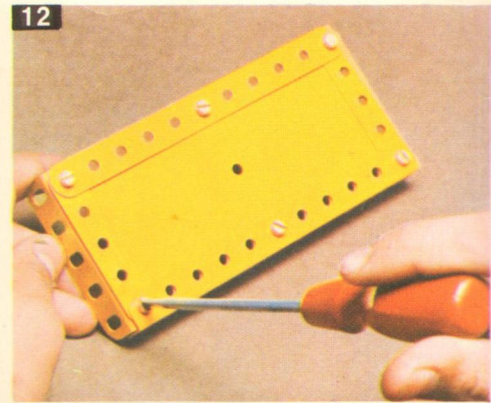
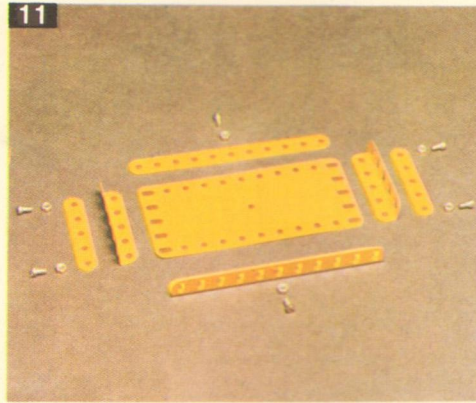
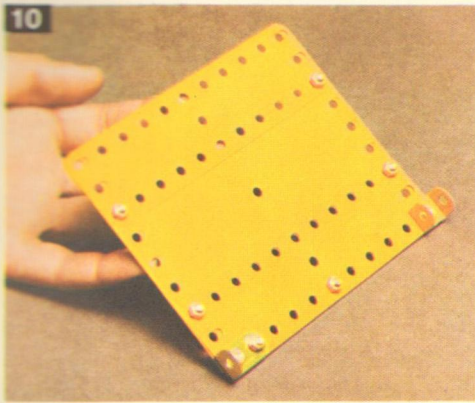




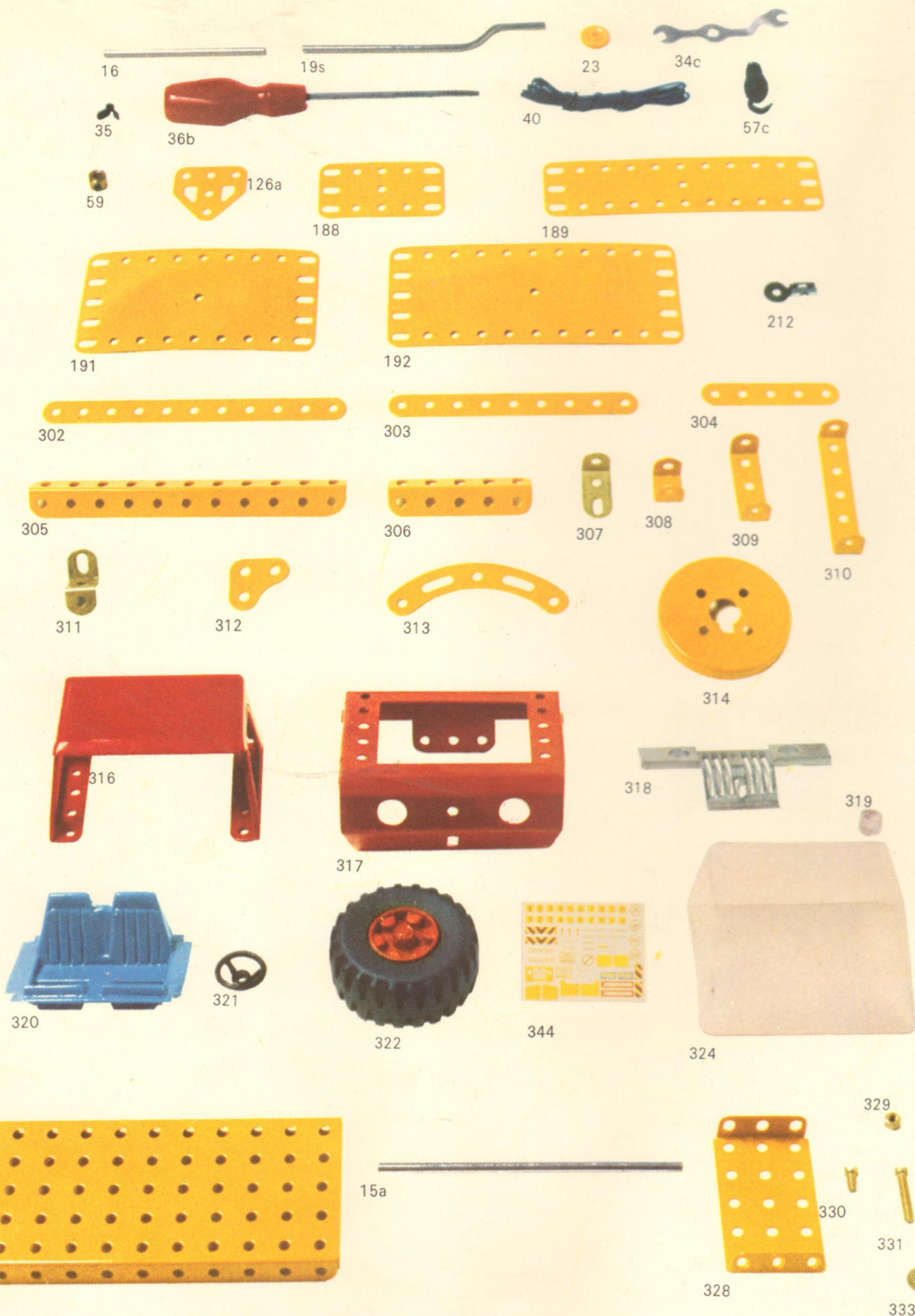












Part No.	Description
15a	Axle Rod 4½" 114 mm.
16	3½" Axle Rod 89 mm.
19s	Crank Handle - 3½" Shaft 89 mm.
23	½" Pulley (Plastic) 12 mm.
34c	Spanner (For Hex. Nut)
35	Spring Clip
36b	Screwdriver (Plastic Handled)
40	Hank of Cord
57c	Loaded Hook
59	Collar with Grub Screw
126a	Flat Trunnion
188	2½" × 1½" Flexible Plate 60 × 38 mm.
189	5½" × 1½" Flexible Plate 140 × 38 mm.
191	4½" × 2½" Flexible Plate 114 × 63 mm.
192	5½" × 2½" Flexible Plate 140 × 63 mm.
212	Rod & Strip connector
302	5½" Strip 140 mm.
303	4½" Strip 114 mm.
304	2½" Strip 63 mm.
305	5½" Angle Girder 140 mm.
306	2½" Angle Girder 63 mm.
307	1" × ½" Angle Bracket 25 × 12 mm.
308	½" × ½" Double Bracket 12 × 12 mm.
309	1½" × ½" Double Angle Strip 38 × 12 mm.
310	2½" × ½" Double Angle Strip 63 × 12 mm.
311	Reversed Angle Bracket ½" 12 mm.
312	1" Corner Bracket 25 mm.
313	3" Stepped Curved Strip 76 mm.
314	Wheel Flange
316	Cab Upper
317	Cab Lower
318	Radiator and Bumper Grille
319	Headlight
320	Seats
321	Steering Wheel
322	Wheel - Complete
324	Window
325	5½" × 2½" Flanged Plate 140 × 60 mm.
328	2½" × 1½" Flanged Plate 63 × 38 mm.
329	Nut (Hexagon)
330	⅝" Bolt 5 mm.
331	¾" Bolt 19 mm.
332	⅜" Bolt 10 mm.
333	⅜" Washer 10 mm.
344	Set of S/A Labels





When you've enjoyed building your Multikit models you'll want to build more. Remember Multikits can be used with standard Meccano, which means you can add even more excitement to your model-building. Build terrific models like this railway crane, or the big combine harvester. How about a fully working Meccano Clock! You can build two models - chiming and non-chiming. Add even more excitement to your Meccano and Multikit models by motorising them with electric or clockwork motors. Some models can even be driven by the Meccano Steam Engine!

Il divertimento che Vi porta la costruzione dei Vostri modelli Multikit Vi inciterà a costruire ancora di più. RicordateVi che i componenti dei Multikit possono essere adattati per uso nel Standard Meccano, il che riempierà di gioia quei momenti passati nella creazione di modelli.

Costruite modelli meravigliosi come questa gru ferroviaria o la grande mietitrebbia. Cosa ne direste di un orologio Meccano che funziona perfettamente? Potete costruire due modelli, con o senza "carillon".

E per rendere ancora più divertenti i Vostri modelli Meccano o Multikit, motorizzatele con motori elettrici o a molla. Inoltre, alcuni modelli possono essere azionati dalla macchina a vapore Meccano!

Sicherlich hat Dir das basteln mit den Multi-Kit-Fahrzeugen viel Spass gemacht. Wusstest Du, dass Du Deine Multi-Kit-Modelle durch Kombination mit dem Meccano-Metallbaukasten interessant erweitern kannst? Tolle Fahrzeuge, wie z.B. dieser Eisenbahnkran oder der grosse Maehdrescher kann man bauen. Wie waere es mit einer richtigen Uhr aus Meccano-Teilen? Du kannst zwischen zwei Modellen waehlen - mit oder ohne Schlagwerk.

Man kann sogar noch mehr Spass an den Meccano - oder Multi-Kit-Modellen finden, wenn man einen Meccano-Elektro-oder Uhrwerk-Motor einbaut. Einige Modelle koennen auch mit der Meccano-Dampfmaschine angetrieben werden.

Har du først hatt gleden av å bygge noen 'Multikit' modeller, vil du sikkert ha lyst til å bygge flere ting. Husk da at 'Multikit' kan bli brukt sammen med det vanlige Meccano byggesett, og at du dermed kan gjøre din modellbygging enda mere spennende. Du kan bygge imponerende modeller slik som denne jernbanekranen, eller en stor førhøster om du vil. Hva synes du om en Meccano - Klokke som virker! Det er to modeller av den: en som kan ringe og en som ikke kan ringe. Få enda mere glede utav Meccano eller 'Multikit' modellene dine ved å motorisere dem med elektriske eller optreks-motorer. Noen modeller kan til og med bli drevet av en Meccano dampmaskin.

La satisfaction d'assembler les modèles Multikit vous incitera à construire d'avantage: n'oubliez pas que les pièces des Multikits s'adaptent à celles du Meccano Standard, ce qui vous apportera beaucoup plus de possibilités de montage. Construisez des modèles fascinants tels que cette Gru de Dépannage ou cette grande Moissonneuse-Batteuse. Et cette Horloge fonctionne parfaitement - il en existe deux versions: avec ou sans sonnerie. Quelle joie aussi de pouvoir animer vos modèles Meccano et Multikit grace aux moteurs électriques et à ressort Meccano. Certains modèles peuvent même être actionnés par la Machine à Vapeur Meccano.

Als je plezier gehad hebt met het bouwen van Multikit modellen wil je er meer doen. Onthouden dat Multikit gebruikt kan worden met de standaard uitvoering van Meccano wat nog meer opwinding betekent, bij model bouw.

Bouw grote modellen zoals spoorhijskranen en dors combinaties. Hoe zou je de volledige werkende Meccano klok vinden er zijn twee soorten met slagwerk en zonder.

Voeg nog meer opwinding toe aan je Meccano-Multikit modellen door deze te doen bewegen met electriciteits klokmotoren.

Sommige modellen kunnen zelfs voortbewogen worden door de Meccano stoom machine.



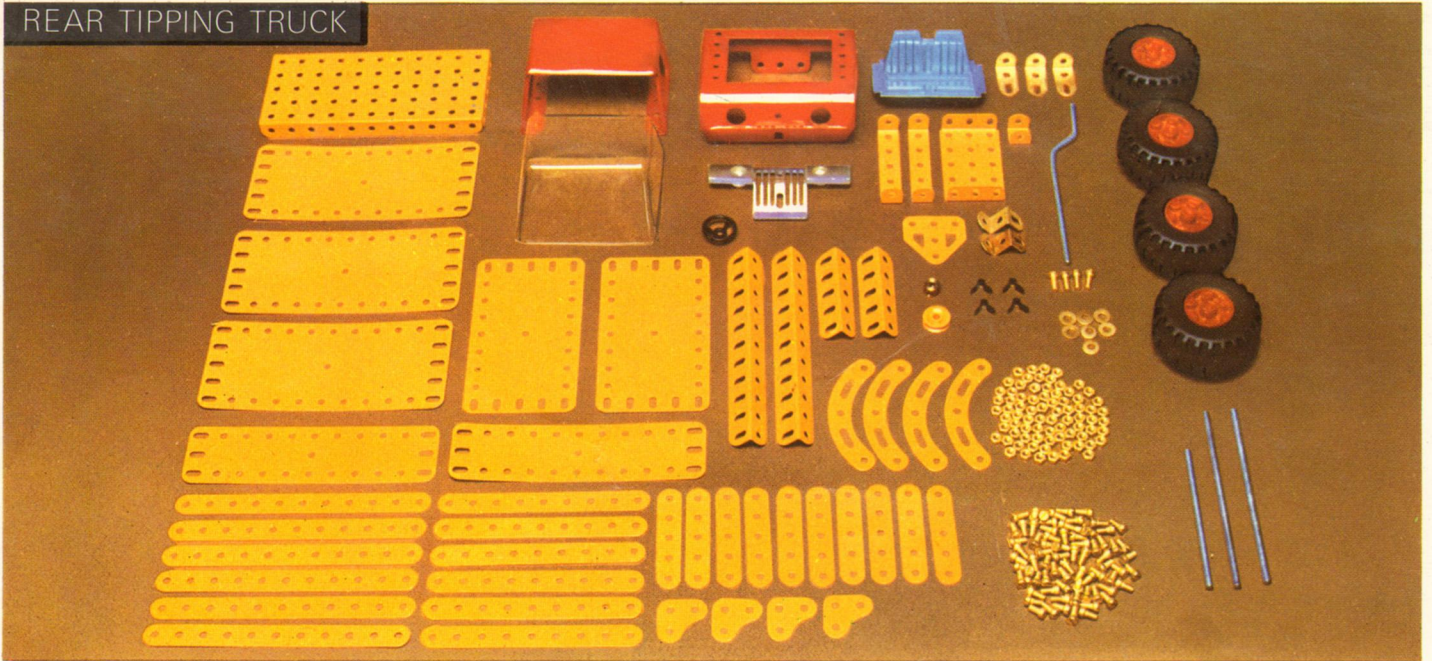
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# HIGHWAY MULTIKIT ERRATA - PAGE 17

## REAR TIPPING TRUCK



The heading photographs on pages 17 and 20 should be transposed.

**Fehler:** Die oberen Fotos auf den Seiten 17 und 20 sind gegeneinander auszutauschen.

**Errata:** Les photographies supérieures des pages 17 et 20 doivent être échangées l'une envers l'autre.

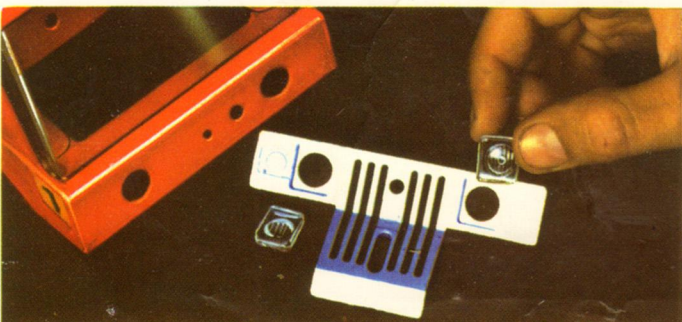
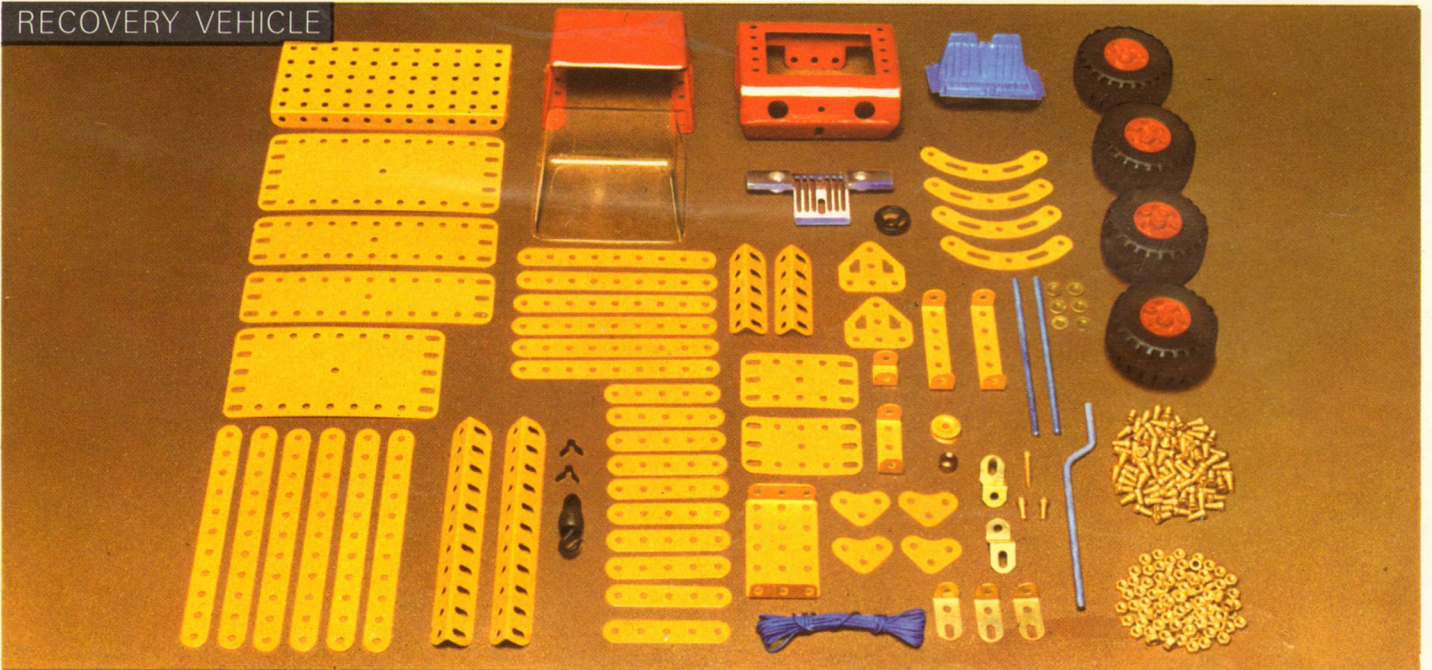
**Errata-corrige:** Le fotografie in intestazione a pagina 17 e pagina 20 devono venire trasposte.

**Rettelsete:** De øverste fotografiene på sidene 17 og 20 skulle vært byttet om.

**Vergissing:** De foto rubriek op bladzijde 17 en 20 moeten verplaatst worden.

## ERRATA - PAGE 20

## RECOVERY VEHICLE



**Note: Models with headlights**  
Ensure that the headlight glasses are fixed in position *before* attaching the radiator grille.

**Zur Beachtung: Modelle mit Scheinwerfern**  
Es ist darauf zu achten, dass die Scheinwerfergläser *vor* dem Einbau des Kühlergrills eingesetzt werden.

**Note: Modeles avec phares**  
S'assurer que les verres des phares soient mis en place *avant* d'attacher la grille du radiateur.

**Nota: Modelli con i fari**  
Prima di montare la griglia del radiatore assicurarsi che i vetri dei fari siano fissati in posizione.

**Anmerking: Modeller med frontlys**  
Pase at frontlys glassene er satt på plass *før* radiator grillen settes på.

**Modellen met koplampen**  
Zorg dat de koplamp glazen eerst gemonteerd worden *voor* dat de radiator gril aangesloten wordt.