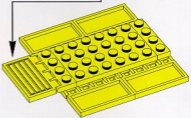
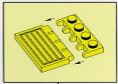
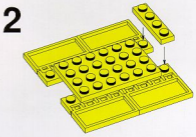
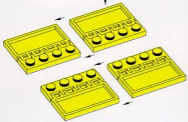
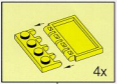
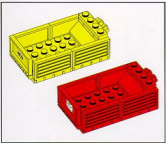
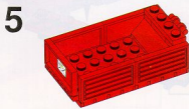
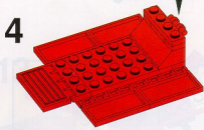
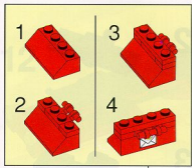
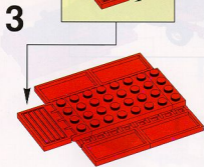
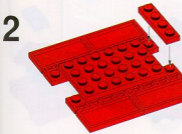
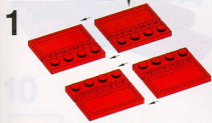
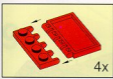
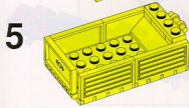
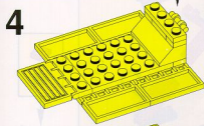
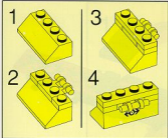


**LEGO** SYSTEM

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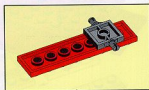
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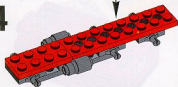
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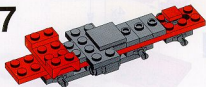
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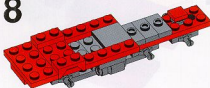
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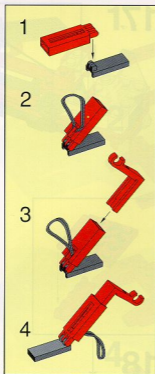


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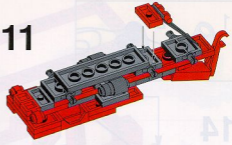


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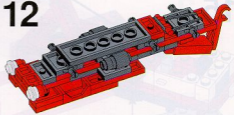




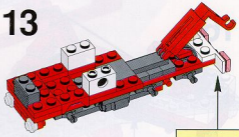
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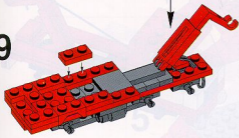
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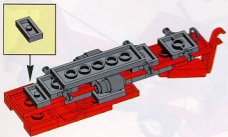
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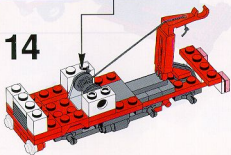


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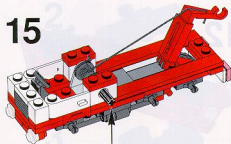




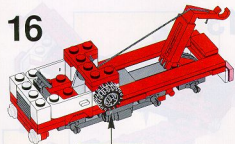
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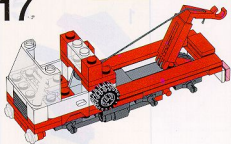
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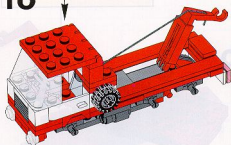
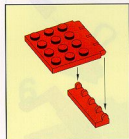
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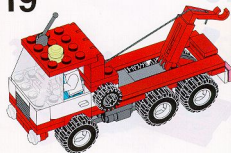
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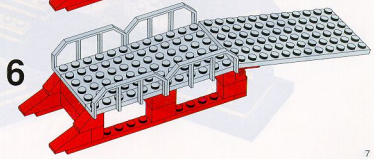
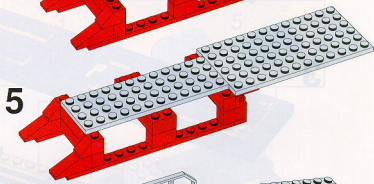
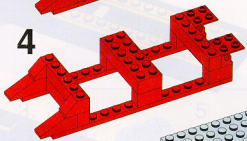
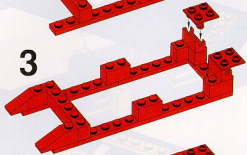
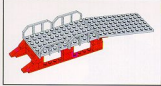


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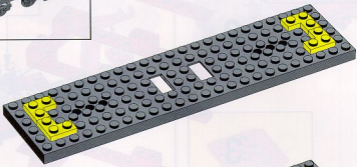
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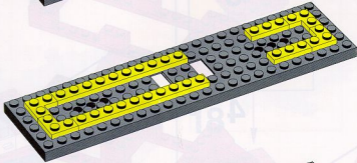




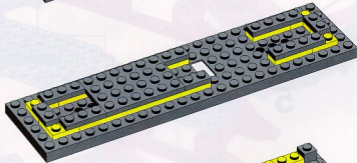
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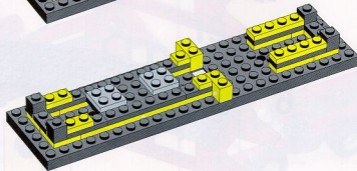
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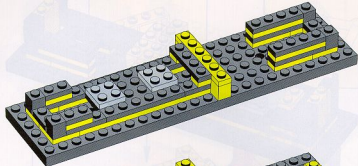


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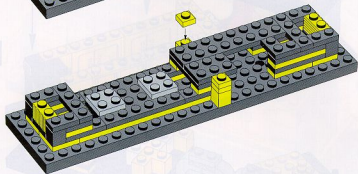




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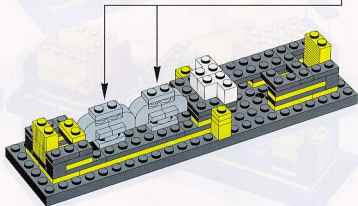


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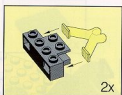
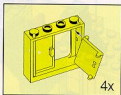


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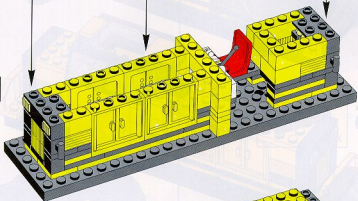
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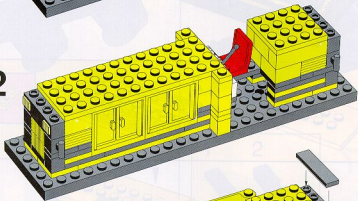




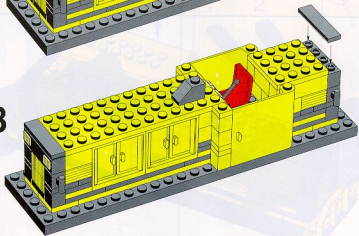
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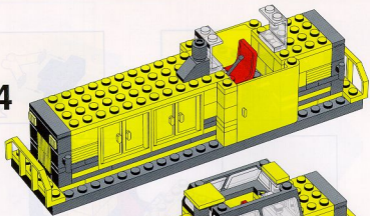
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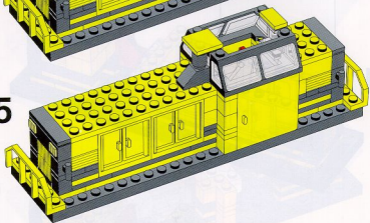
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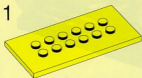
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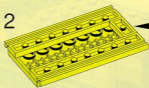
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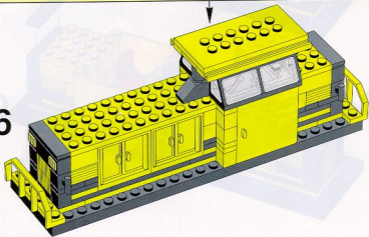
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2



16



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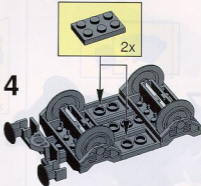
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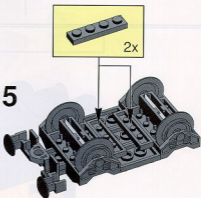
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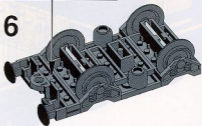


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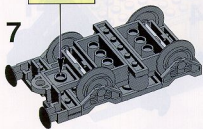


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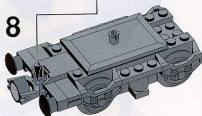




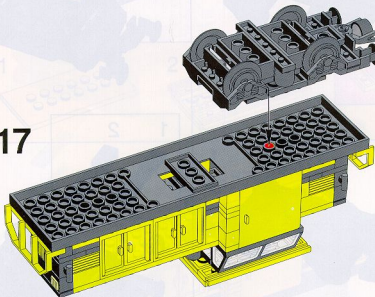
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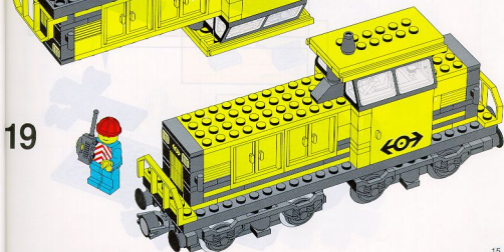
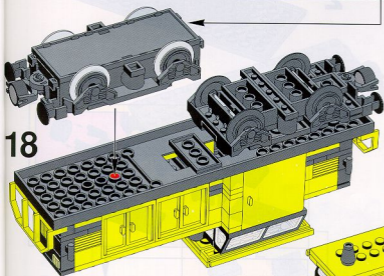
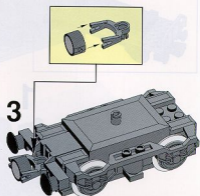
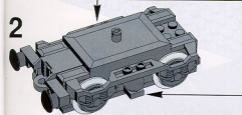
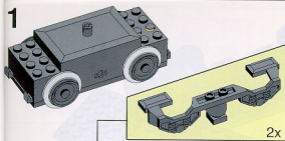


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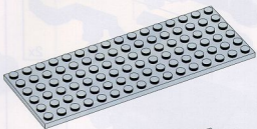
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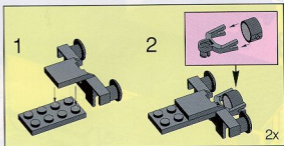




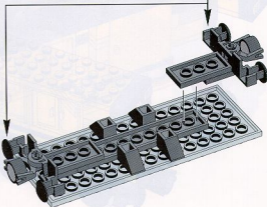
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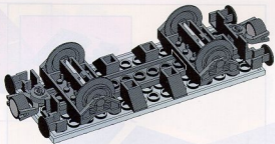


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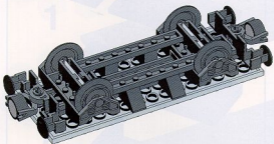




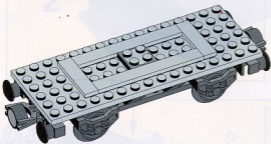
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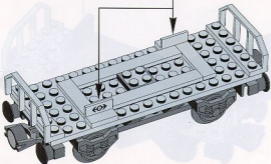
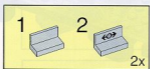
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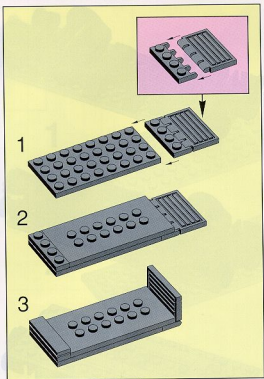


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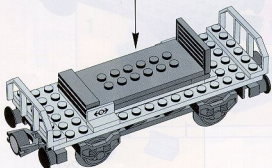


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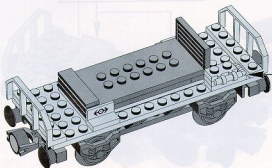




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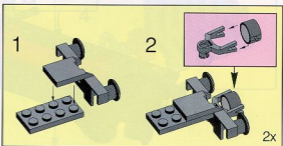




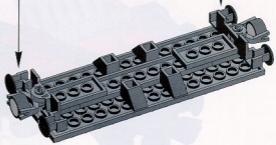
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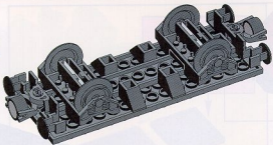
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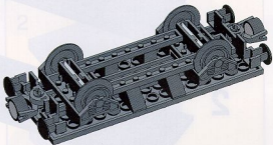
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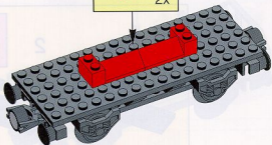
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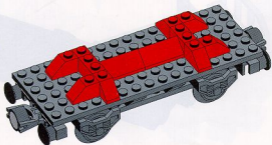
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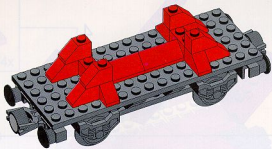
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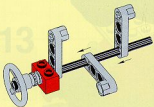
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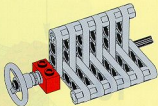
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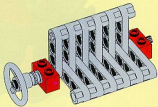
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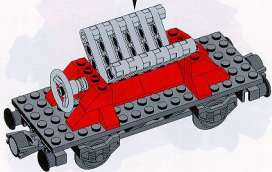
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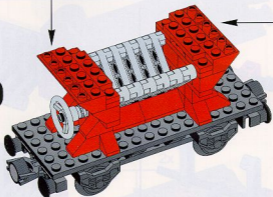


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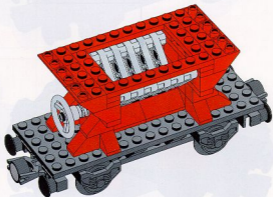


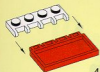
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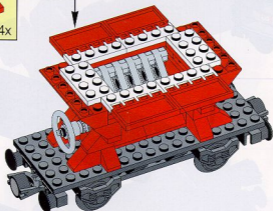
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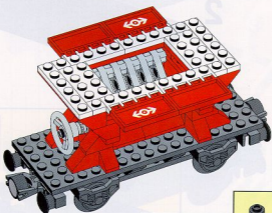


4x

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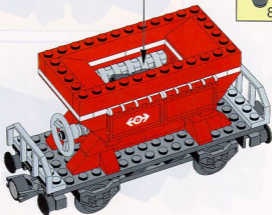


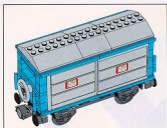
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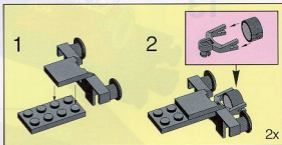




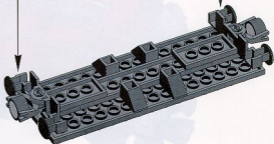
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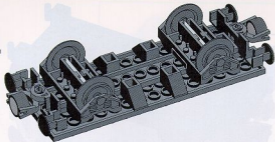


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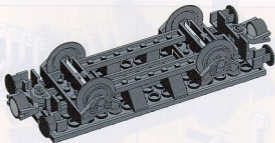




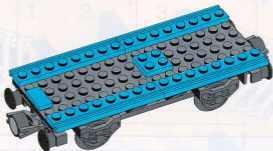
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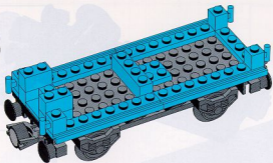
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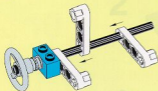
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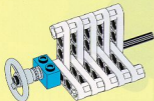
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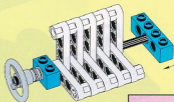
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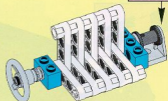
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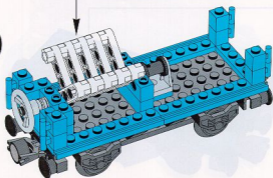
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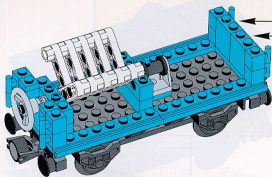
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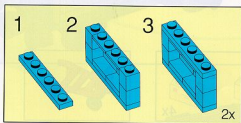
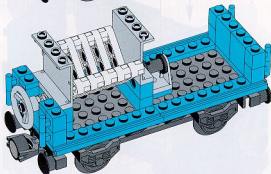
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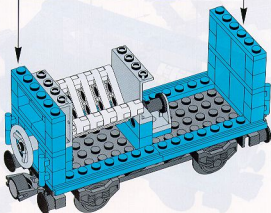
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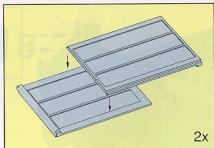


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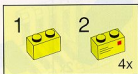
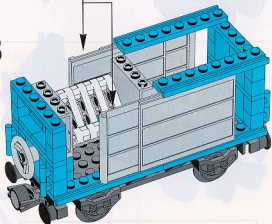


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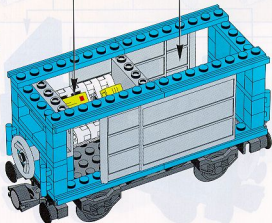




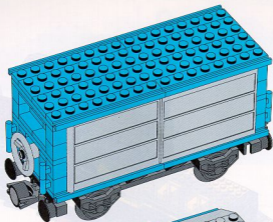
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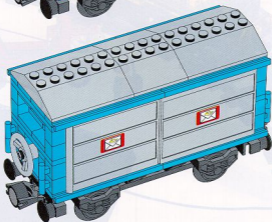
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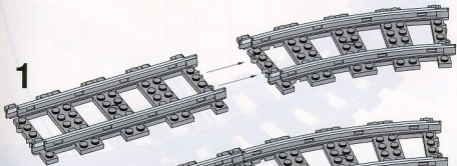
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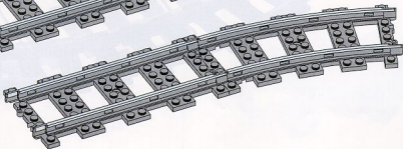
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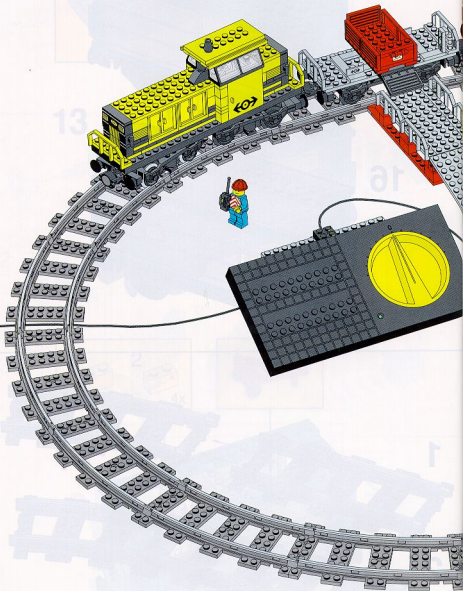


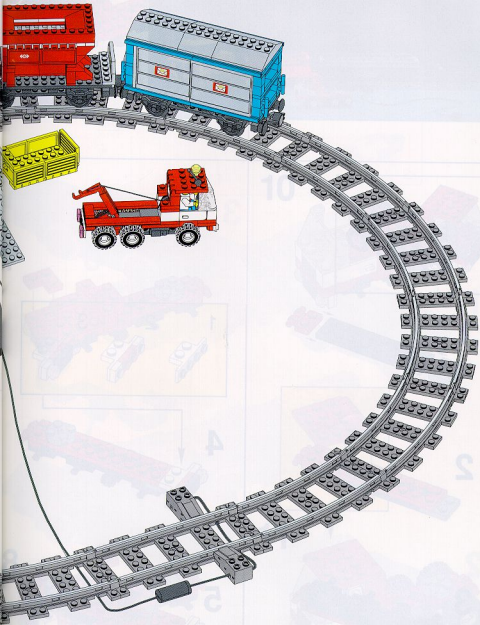
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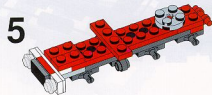
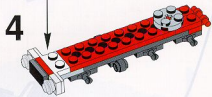
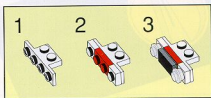
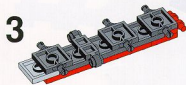
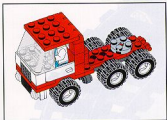
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# 2





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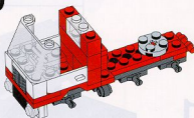
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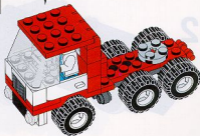
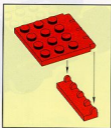
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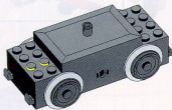


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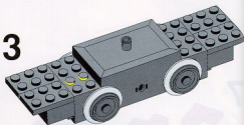
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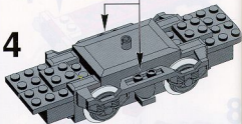
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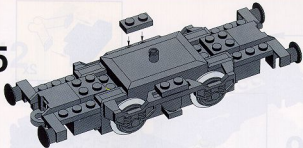
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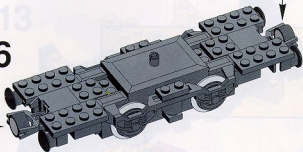
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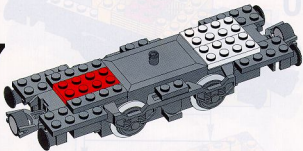
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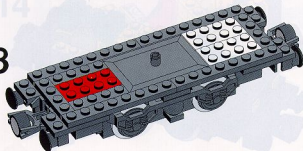
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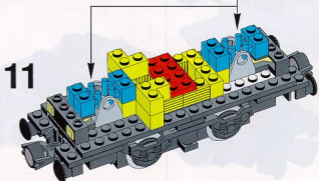
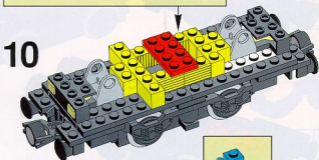
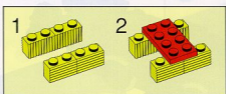
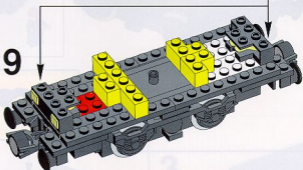
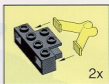


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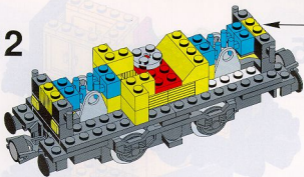


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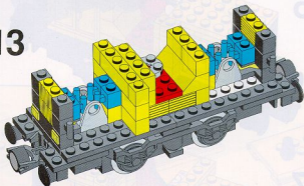




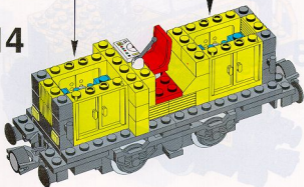
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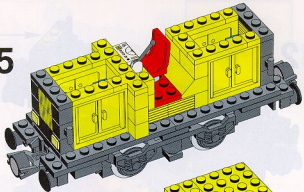
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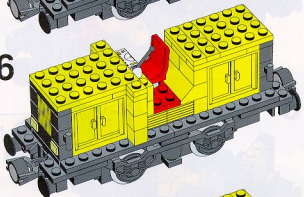
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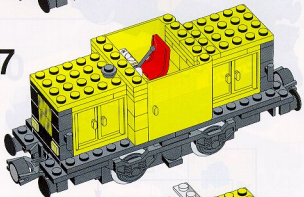
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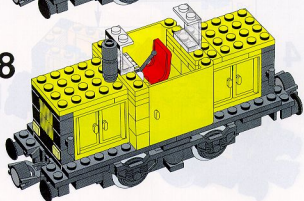
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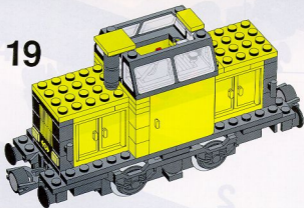
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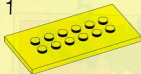
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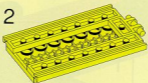
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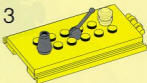
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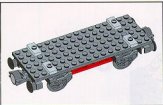


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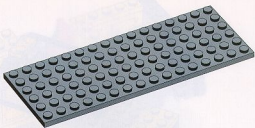


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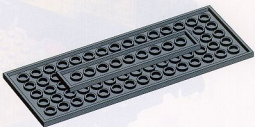




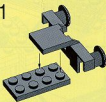
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2



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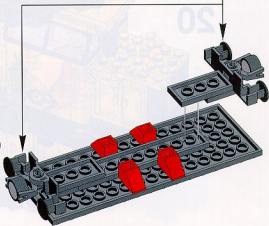


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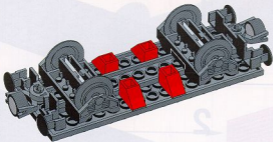
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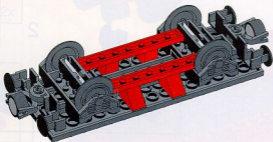




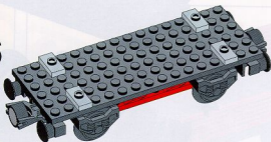
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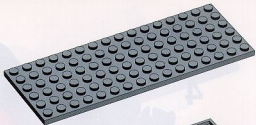


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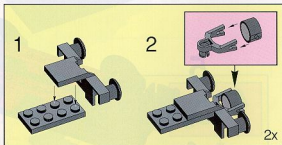
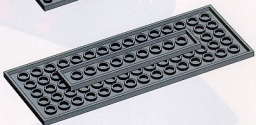




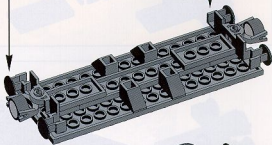
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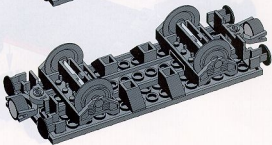
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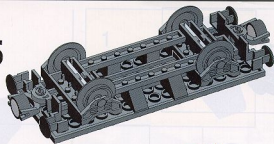
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4



5



1

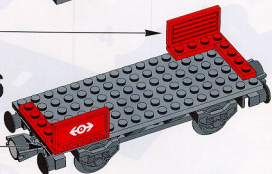


2



2x

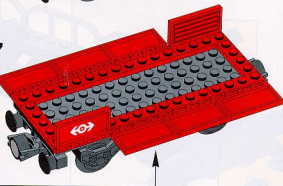
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7



6x



1



2

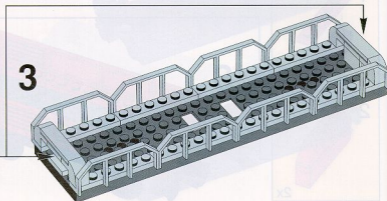
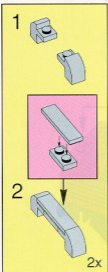
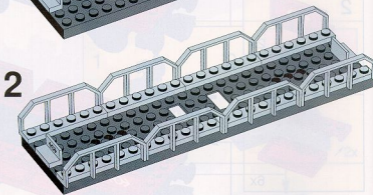
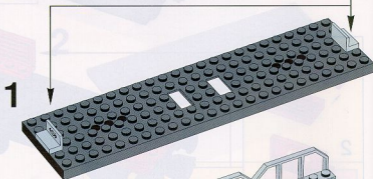
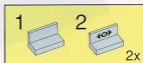


2x

8



2x



1



2



3



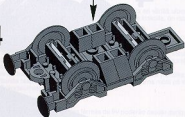
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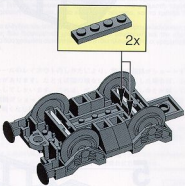
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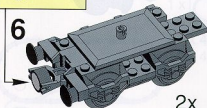
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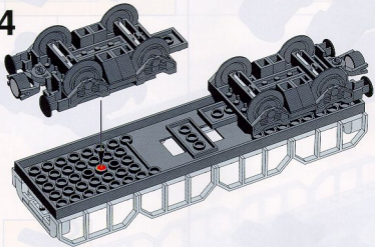


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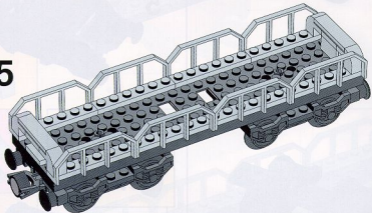


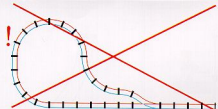
2x

4



5





**Einige Gleispläne, z.B. die oben abgebildeten, verursachen einen Kurzschluss. Wenn die Gleise kurzgeschlossen sind, schaltet sich die grüne Kontrollleuchte des LEGO Fahrreglers aus, bzw. leuchtet nur sehr schwach. Der Zug kann dann nicht fahren. Du kannst leicht feststellen, ob Dein Schienenkreis kurzgeschlossen ist, indem Du mit zwei verschiedenen Farben an der äußeren bzw. inneren Schiene entlang gehst. Treffen beide Farben auf derselben Schiene zusammen, ist das Schienen-netz kurzgeschlossen.**

**Alcuni elementi del circuito ferroviario 9 Volt possono causare un corto circuito. (Vedi illustrazioni a fondo pagina). In caso di corto circuito, la luce verde sul regolatore di velocità (speed regulator) è spenta o molto debole e il treno non parte. È possibile accertare in quale punto avviene il corto circuito facendo in modo che due colori diversi corrispondano rispettivamente al binario esterno e a quello interno. Si avrà il corto circuito se i due colori si incontrano sullo stesso lato.**

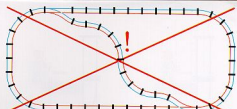
**Certains circuits de train 9 Volt peuvent provoquer un court-circuit – comme ceux montrés ici, par exemple. En cas de court-circuit, le témoin lumineux vert sur le régulateur de vitesse sera éteint ou très faible et le train ne roulera pas. Pour vérifier qu'un circuit peut fonctionner, dessinez votre réseau en prenant deux couleurs différentes pour le rail intérieur et le rail extérieur. Il y aura court-circuit si les deux couleurs se rejoignent sur le même côté.**

**Sommige opstellingen van 9 Volt spoorbanen kunnen kortsluiting veroorzaken. Bijvoorbeeld de hier afgebeelde. Als de baan kortgesloten is, brandt het groene lampje op de stuurwielheid (snelheidsregelaar) niet, of slechts zeer zwak, en de trein kan niet rijden. Je kunt zelf controleren waar de rails kortsluitan door met twee verschillende kleuren de buitenste en de binnenste rail te volgen. Als de twee kleuren elkaar ergens ontmoeten, is de baan kortgesloten.**

**Algunas instalaciones de vías para trenes de 9V producen cortocircuitos, como por ejemplo las que aquí se muestran. Si se produce un cortocircuito en la instalación, la lámpara verde de la unidad de regulación de velocidad estará apagada o tendrá una luz muy tenue, por lo que el tren no podrá funcionar. Tú mismo puedes controlar dónde se produce el cortocircuito, dejando que dos distintos sigan la fila exterior e interior de las vías. Allí donde los dos colores se unen es donde se produce el cortocircuito.**

**Nogle opbygninger af 9V togbaner vil forårsage kortslutning, f.eks. de, der er vist her. Hvis banen er kortsluttet, er den grønne lampe på reguleringsenheden slukket, eller vil lyse meget svagt, og toget kan ikke køre. Du kan selv kontrollere hvor din baneopbygning kortslutter ved at lægge to forskellige farver følge hin, den yderste og indreste sporetræk. Hvis de to farver mødes på samme side, kortslutter banen.**

**Short circuiting will result from some lay-outs of the 9V railway tracks, e.g. those shown here. If the track has short circuited, the green lamp on the speed regulator will be off, or very weak, and the train will not run. You can check for short circuiting of your track lay-out by allowing two different colours to follow the outer and inner rails. The track will short circuit if the two colours meet on the same side.**



**Erät 9V junaratojen rakennelmat aiheuttavat oikosulun, esimerkiksi sellaiset, jotka tässä on kuvattu. Jos radalla syttyy oikosuku, ei säätövalaisin (speed regulator) vihreää lamppu pala tai se on hyvin himmeä, eikä juna kajuje. Voit itse tarkistaa oikosulun syntymäpaikan. Seuraa kahdella eri värillä ulompaa ja sisempää kiskoa. Jos nämä kaksi väriä kohtaavat samalla kiskolla, on rata oikosulussa.**

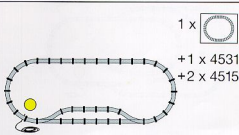
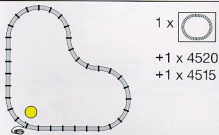
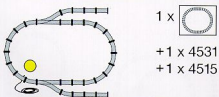
**En del sammansætninger af 9V-banearrangementer kan forårsage kortslutning, f. ex. sådanne som vises hér. Om banen får kortslutning, slukkes den grønne lampen på manøvrerenheden (speed regulator) eller også lyser den endst meget svagt. Tåget kan så ikke køre. Du kan selv se her din banearrangement kortslutter gennem at lægge to olika färger följa den yttre respekt. den innersta rälsen. Om de två färgerna möts på samma sida uppstår kortslutning på banan.**

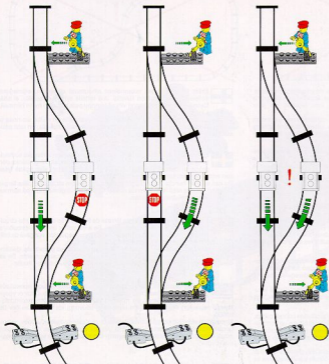
**Algumas construções de vias férreas de 9V poderão causar curto-circuitos, p. ex., as que se mostram aqui. Se a via sofrer um curto-circuito, a lâmpada verde da unidade reguladora (speed regulator) apagará ou brilhará com menos força, e o comboio não poderá andar. Você mesmo pode controlar o local de curto-circuitos da sua própria via, deixando 2 cores diferentes seguir o trilho exterior e interior, respectivamente. Se as duas cores se encontrarem no mesmo lado, a via sofrerá um curto-circuito.**

**Μερικές διατάξεις των γραμμών του ενδιάμεσου τρένου προκαλούν βραχυκυκλώματα, όπως π.χ. αυτή που φαίνεται στο σχέδιο. Όταν οι γραμμές βραχυκυκλώνουν, το πράσινο φως της συσκευής ταχύτητας (speed regulator) θα σβήσει, ή θα είναι πολύ αδύνατο, και το τρένο δεν θα τρέξει. Μπορείς να ελέγξεις και από μόνος σου αν οι γραμμές βραχυκυκλώνουν, χρησιμοποιώντας δύο διαφορετικά χρώματα για την εξωτερική και την εσωτερική ράγα. Αν τα δύο χρώματα συναντηθούν στην ίδια πλευρά, τότε οι γραμμές βραχυκυκλώνουν.**

**レールのレイアウトのしかたにより、電流の回路がショートする場合があります。たとえば国の様なレイアウトをした場合は、ショートしてしまいます。これは、ポイントの接触のしかたが誤っている例です。回路がショートした時はスピードレギュレーターの緑色のライトが消えるか、随くなり列車は止まります。**

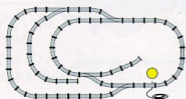
**如果某站設的軌狀佈置出了錯誤，將會發生短路現象，例如圖中所顯示的，如果站軌發生短路了，此時顯示速度調節器的綠燈就會不亮了，或者是非常微弱，而且火車也不會前進了。如果你要檢查某站設的軌道是否會發生短路，可以用兩種不同的顏色沿著內側的和外側的軌道而設。如果這兩顏色在同一側會合，那麼就會發生短路。**





1 x 

- + 2 x 4531
- + 3 x 4515
- + 2 x 4520



1 x 

- + 5 x 4520
- + 7 x 4515
- + 3 x 4531

