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1 Web Site References (as of May 02, 2014)

http://en.wikipedia.org/wiki/Timesaver

Timesaver is a well-known[1] model railroad train shunting puzzle (U.S. English: switching puzzle) created by John Allen.[2] It consists of a specific track layout, a set of initial conditions, a defined goal, and rules which must be obeyed while performing the shunting operations.

The standard layout consists of a simple yard, with five switches, five spurs, and a runaround track at the center .[3] Power is supplied to the track, sufficient to run a locomotive at a fixed slow speed, controlled by a simple center-off reversing switch. Several freight cars are placed on the track, and the object is to move all of them to clearly marked destination positions.

Contents

Variants and gameplay methods

Timesaver can be played as a game, with the object to complete a given puzzle in the shortest amount of time (time spent thinking counts the same as time spent actually moving cars, and the number of moves is irrelevant). The switching game became a contest at the National Model Railroad Association conventions.[1]

Optionally, two Timesaver layouts can be connected with an unpowered interchange track (adding a sixth switch to each), with space for a single car. In this configuration, (typically) each player must exchange two "outbound" cars with the other. In this form, it becomes a cooperative board game. Because it can provide complex switching challenges in a small space, it has also been incorporated into a number of larger layouts.

Timesaver was first published in the November 1972 issue of Model Railroader, in what would be Allen's last article before his death.[2]

See also

- Inglenook Sidings

References

1. Schleicher, Robert H. *The Big Book of Model Railroad Track Plans*. Motorbooks International. p. 39. ISBN 0-7603-1423-3.
2. Adrian Wymann. "Classic Switching Puzzles John Allen's Timesaver". Retrieved September 10, 2008.
3. Adrian Wymann. "Timesaver Shunting Puzzle - Track Plan & Layout Size". Retrieved September 10, 2008.

External links

- Model Railways Shunting Puzzles - Timesaver - A full description of the puzzle.
- RailwayStation.com - Routes A version of the Timesaver layout for Microsoft Train Simulator (MSTS).
- Razorback Railway The Razorback Shunt layout and associated scenarios for Trainz Railway Simulator 2004/2006 (TRS2004/TRS2006) includes multiple Timesaver based puzzles.

http://www.wymann.info/ShuntingPuzzles/sw-timesaver.html

Almost the definitive web site for shunting (switching) puzzles. Well worth a look.

http://www.gdlines.com/Timesaver.html

This link is now obsolete but is included for its reference to John Allen's Gorre and Daphetid Railroad. Model railroaders know to pronounce it as Gory and Defeated, an example of John Allen's humor making its way into his hobby.

2 *Model Railroader* magazine article

The Atlas Snap Track version of the Timesaver was introduced by *Model Railroader* magazine in their October 1976 issue. The scanned pages are included below.

Allan Fenton, Joe Cain, Earle Flaws, and Darrel Harbin try out the Snap-Track Timesaver.

The Snap-Track Timesaver

A switching game that appeals to a far wider group than model railroad fans

BY RUSS CAIN

MODEL RAILROADER published a John Allen article in November 1972 on a portable railroad he called Timesaver. In the article, John said: "Often one plans and builds something that later shows itself to be less interesting or of less value than originally anticipated. Occasionally the reverse is true: the product proves better than hoped for."

The many model railroaders who have built and operated Timesaver across the country will attest to that statement.

Timesaver is a game in the true sense of the word. It is simple in concept but complex in application. John hit upon something a bit more universal than just another switching project. While it happens to use railroad tracks and cars, the game appeals to a far wider group than model railroad fans. The operation and concept are easy to understand, but proficiency in the problem takes a bit of practice and patience.

Of course, Timesaver does have a special appeal to modelers. It is ideal for those who do not have room for a larger layout or for those who want to use it for a test track for locomotives, cars, and couplers.

John Allen's original was built with handlaid code 70 rail and used Baker couplers. In the hope that more modelers will build and enjoy Timesaver, I have adapted the plan to Atlas HO Snap-Track and Kadee couplers. The concept and operation are the same, but the construction time is reduced to a few hours. Before getting into construction, let's look at the game itself.

How the game is played

Timesaver is a switching problem which requires spotting cars at assigned destinations. The problem is complicated by the capacities of the tracks and the positions of the uncoupling magnets.

Fig. 1 shows two Timesaver boards coupled for two-player operation. The positions of the magnets, and track capacity in units, are shown on one board, and the construction details are shown on the other. A unit is one car or loco-

Materials list

- 4 left-hand manual Atlas Snap-Switches
- 2 right-hand manual Atlas Snap-Switches
- 6 Atlas 9" straight sections (one may be a rerailer and one a terminal)
- 2 Atlas 6" straight sections
- 6 Atlas 3" straight sections
- 2 Atlas 1½" straight sections
- 1 Atlas Snap-Track assortment kit
- 6 Atlas bumper tracks (1 illuminated)
- 11 Kadee between-the-rails no. 321 (B-21) magnets
- 1 Atlas Twin
- 1 ¾" x 10" x 68" kiln-dried board

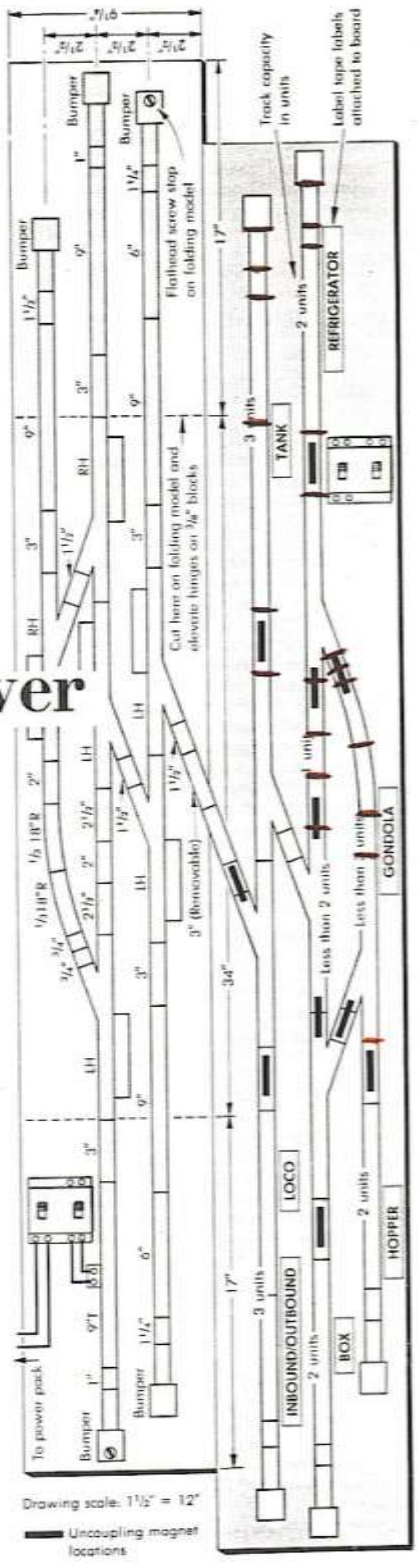


Fig. 1 TWO COUPLED TIMESAVER BOARDS

motive. (A three-unit track will hold two cars and a locomotive, or three cars.) Studying the diagram will give you some idea of the operating problems.

The game is played with five different types of 40-foot cars, and a 40-foot or shorter locomotive. The speed of the locomotive is preset at the power pack for about 7 to 10 scale miles per hour and is not changed during operation. Operation is controlled with a center-off reversing switch, mounted on the board. An Atlas Twin works well for this. See fig. 2.

Each car's destination is marked on the board with label tape. One of the tracks is labeled "inbound/outbound" and the locomotive's starting position is labeled "loco." See fig. 1.

To start the game, two of the five cars are placed on the inbound track. The other three cars are placed at their labeled destinations, two of which are marked by placing a tag or thumbtack on their roofs. The locomotive is placed at the "loco" position. See fig. 3.

At the starting of the clock, the operator spots the two cars on the inbound track (box and hopper) at their labeled destinations, and brings out the two tagged cars (gondola and reefer) to the outbound track. The clock is stopped when the locomotive returns to the "loco" position. See fig. 4.

The order in which the cars are placed on the outbound track is not important. The next problem can be set up by removing the tags on the outbound cars and placing them on two of the other three cars.

The problem can be worked with five to nine cars, depending on how complicated you want to make it. However, only two of any one type of car should be used.

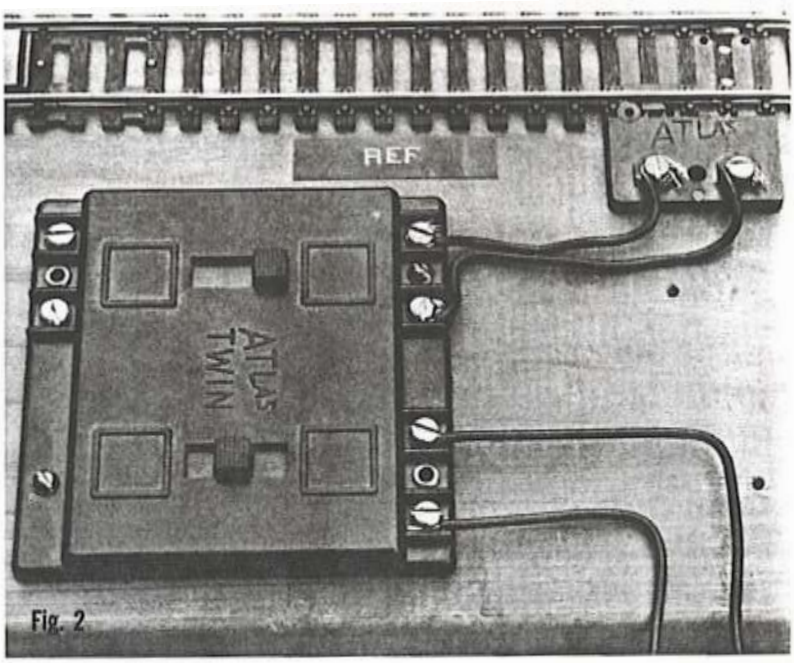


Fig. 2

By wiring an Atlas Twin this way, the upper switch becomes an index for the lower switch.

Timesaver for two

The game can also be played with two operators, using two boards joined together by an interchange track. Five different types of cars are placed at their labeled destinations on each board. Cars are not placed on the inbound/outbound track. The locomotives are placed in the "loco" positions.

One board is designated Red; the other, Blue. Two cars on the red board are marked with blue tags and two cars on the blue board are marked with red tags. Each of the four marked cars must be of different types.

When the clock is started, the tagged cars are placed on the interchange track, one at a time. From there they are picked up by the other operator and spotted at their labeled destinations. A locomotive never leaves its own board.

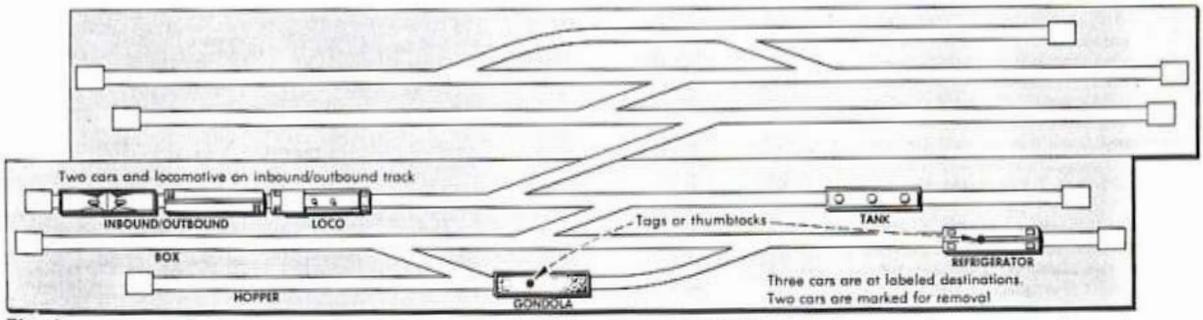


Fig. 3 CAR POSITIONS AT START — Tagged cars to be brought out. Inbound cars to be spotted at their destinations — Not to scale

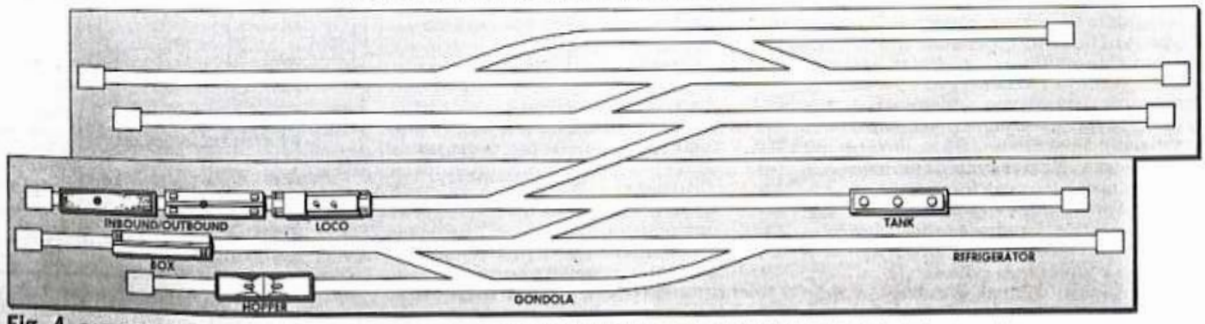
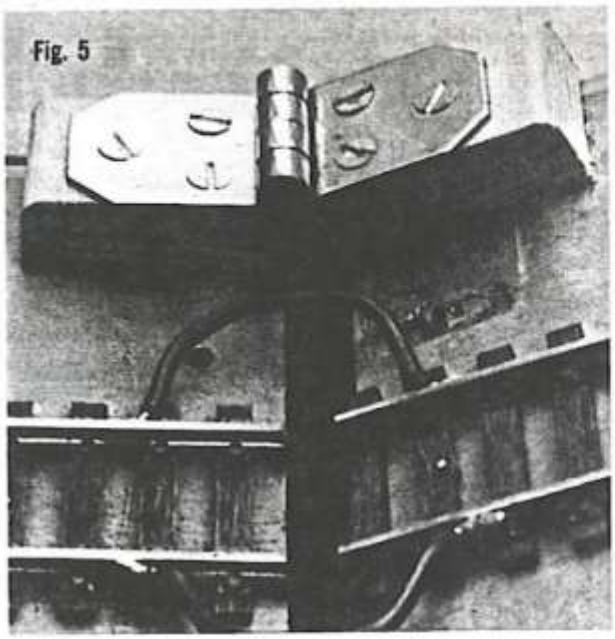
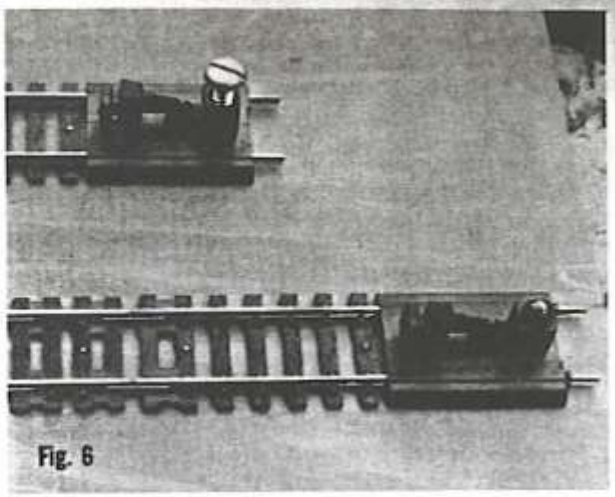


Fig. 4 CAR POSITIONS AT END — Remove tags from two cars brought out and place on two of the cars in "yard" for start of next round





↖ Hinges should be mounted on a ⅜" block so the track will clear when the layout is folded. Soft stranded wires soldered to the rails connect them electrically. ↑ Large flathead screws mounted through the holes in two bumpers act as stops when the layout is folded. Use one illuminated bumper to indicate power on (light burns at normal brightness), short circuit (bulb dims), open circuit (bulb brightens).

The operators are not competing with one another, but are working as a team against the clock. When the problem is finished, the cars marked with red tags will have been spotted on the red board and the cars marked with blue tags will have been spotted on the blue board.

Object of the game

"The object of the game," as John said, "is to make the required switching moves in the least time." Time is the important thing. The number of moves are not counted—only the total time to do the problem. Many combinations are possible, and the combinations are governed by which cars are marked to be moved and which are not.

No attempt should be made to standardize the game by always marking the same car for the same move. Each problem should be different, so the operator's skills, not his memory, are used. In this way the game never becomes boring or repetitive. Each game is a new problem to be solved.

Rules

What makes the Timesaver such a fascinating game or switching problem is its simplicity. What few rules it has are simple:

- Time starts when the second car is tagged. (The operator tags the first car and the judge or timekeeper tags the second.)
- No M.H.P.—moving cars by Massive Hand Power.
- Derailments caused by pushing a car through closed switchpoints, or sideswiping a car left too close to a switch, will result in a 1-minute penalty. If a malfunction occurs beyond the operator's control, the clock is stopped until it is fixed.
- The game is over and the clock is stopped when the locomotive is returned to the "loco" position.

Building the Timesaver

A Timesaver can be built as simply or complexly as you wish. Snap-Track can be mounted on a 6-foot shelf or handlaid code 70 rail can be spiked on a folding board that stores in a custom case with compartments for the rolling stock. While the Timesaver has been incorporated into larger layouts complete with scenery and structures, a portable model you can take to a friend's house or to rail meets has special appeal.

The purpose of this article is to show how simply a Timesaver can be built using ready-made components right off the hobbyshop shelf. This is not to say you can't build a more elaborate model using custom or handlaid track in any scale from Z to O. But if the Snap-Track model does appeal to you, consult the materials list and get ready to start.

Lay out the Snap-Track sections as fig. 1 indicates. Tack or spike the track to the board after measuring the center lines to be sure all is straight. Do not tack down the 3" interchange track. Include it only when two boards are joined together. Be sure to use insulated rail joiners for the interchange track, because the two boards are electrically independent. Glue the 11 magnets where fig. 1 indicates. Mount the Atlas Twin on the board, and wire it to the terminal track. Hook up a power pack and you are ready to operate.

Folding model

If you plan to carry your Timesaver with you, you should consider a folding model. The material needed is the same, except for the board. Hinging the board in the middle causes problems with the interchange track, so it is better to hinge the ends in toward the center.

You will need one 34" board and two 17" boards. Cutting these yourself is not easy, because you need a good straight right angle, cut to make the board fold squarely. Your lumberyard can cut the pieces for you at a small cost.

Lay out the boards with the 34" piece in the middle, and mount the hinges. The hinges will have to be mounted on ⅜"-thick blocks so that the track will clear when the layout is folded. See fig. 5. After mounting the hinges, check to make certain that the layout folds properly; then mount the track as explained previously.

The rails on the outer tracks will have to be cut on the seam where the board folds. After cutting, solder soft stranded jumper wires to the rails to connect the boards electrically. Screw two large flathead screws through the holes in two unlighted bumpers to act as stops when the boards are folded. See fig. 6. Attach hooks and eyes to hold the board shut when folded, and a handle to carry it.

A few tips

A power pack with pulse power may be helpful, because the game is played at slow speed—7 to 10 scale miles per hour. Using one illuminated bumper gives you an indication of power on (light burns at normal brightness), short circuit (light dims) or open circuit (light brightens). An Atlas Twin makes a good reversing switch. By wiring it as indicated in fig. 2, the upper switch becomes an index for the lower.

A locomotive that runs well slowly, with equal speed in both directions, should be selected. Model Die Casting's flywheel boxcab is perfect for this type of operation. All rolling stock must be the same length (40 feet). Any type of rolling stock equipped with Kadee couplers will work fine; however, bending a small piece of wire from axle to axle on the trucks will give the car a little drag and prevent false uncoupling.

An inexpensive stopwatch is helpful to keep track of time.

3 Parts list for Atlas Snap Track Timesaver

Materials List for Snap-Track Timesaver

4 left-hand manual Atlas Snap-Switches
2 right-hand manual Atlas Snap-Switches
5 Atlas 9" straight sections (one may be a rerailer and one a terminal)
2 Atlas 6" straight sections
6 Atlas 3" straight sections
2 Atlas 1½" straight sections
1 Atlas Snap-Track assortment kit
5 Atlas bumper tracks (1 illuminated)
11 Kadee between-the-rails no. 321 (B-21) magnets (optional)
1 Atlas Twin
1 ¾" x 10" x 68" kiln-dried board
1 power pack

Rolling Stock

The game is played with five different types of 40-foot cars. The cars can be modified for the game by having a hole for a thumbtack drilled into them.

The locomotive length should be 40 feet or shorter. Using a longer locomotive will restrict the capacity of the tracks.

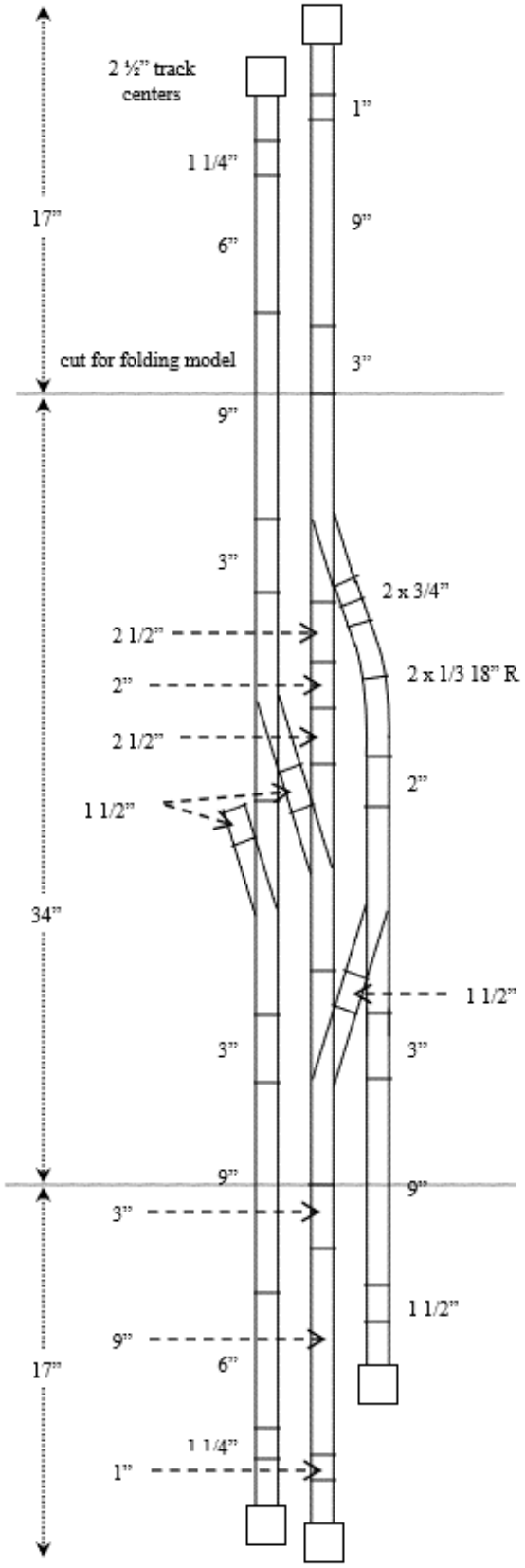
The speed of the locomotive is set for about 7 to 10 scale miles per hour and is not changed during operation.

Operation is controlled with a center-off reversing switch mounted on the board (Atlas Twin).

Tips

An inexpensive stopwatch is helpful to keep track of time.

The article *The Snap-Track Timesaver* appeared in Model Railroader, October 1976.



4 Car Cards / Waybills

4.1 For One Person

The 30 car cards / waybills are for the single-person Timesaver switching contest. The cards show the car number on the front and the destination on the back. The cards are cut out, folded, and taped. The contestant sees the car numbers only and picks a card. If the destination on the reverse side is already assigned, the contestant draws another card for the same car number. This continues until all cars are assigned, one car per destination spot.

Note: Yard track In-Out can hold two cars in two spots but there are only five cars total.

4.2 For Two Persons / Teams

As described in the article above, two Timesavers are joined together.

The interchange track should be long enough to hold just one car and allow both locomotives to move straight past the car; it should be short enough to allow both locomotives to pull the car from the electrically-isolated interchange section.

The number markers on the cars identify them as East or West cars (Red / Blue in the article).

The 10 car cards are for the two-person / team switching contest. No waybills are provided, as explained below.

5 Car Map

The car map should represent the placement of the cars at the end of the game, i.e. it is the goal.

5.1 For One Person

The car cards are placed on the map to keep track of what has been picked and what has been switched. The randomness of picking the cards creates the interest of the switching puzzle.

5.2 For Two Persons / Teams

Two copies of the map are needed – one East and one West.

There are several possibilities for matching the cars with a destination.

A. Both East and West teams have identical assignments of cars to destinations. The assignments are made by some type of random pick, roll, or guess.
B. Both East and West teams have entirely different assignments. One team assigns first and the other then deliberately assigns differently.
C. Any combination of identical and different assignments, e.g. two cars the same destination and three different.

6 Score Sheet(s)

6.1 For One Person

Beforehand, print as many score sheets as expected to be used. As they are used, enter a sequence number at the tops. When finished, enter the total number on all pages. Depending upon the circumstances, contestants are allowed to try as many sessions as they desire. The Repeat column is

marked Yes for such sessions. Enter a reference number for the contestant's prior session(s). The # of Cars Moved column is for reference purposes only. It might be helpful if two contestants cannot agree on who had the more difficult session. The Time Score column is the stopwatch elapsed time for the session; lower is better. The Move Score column is the total number of moves needed to complete the session; again lower is better.

Obviously, a stopwatch / timer will be required for the timed sessions. An accurate running tally of moves is required for move sessions.

6.2 For Two Persons / Teams

No specific score sheet is provided because of the variety of to play the game. The One Person sheet can be adapted to individual or team scoring.

7 Poster Board Signs

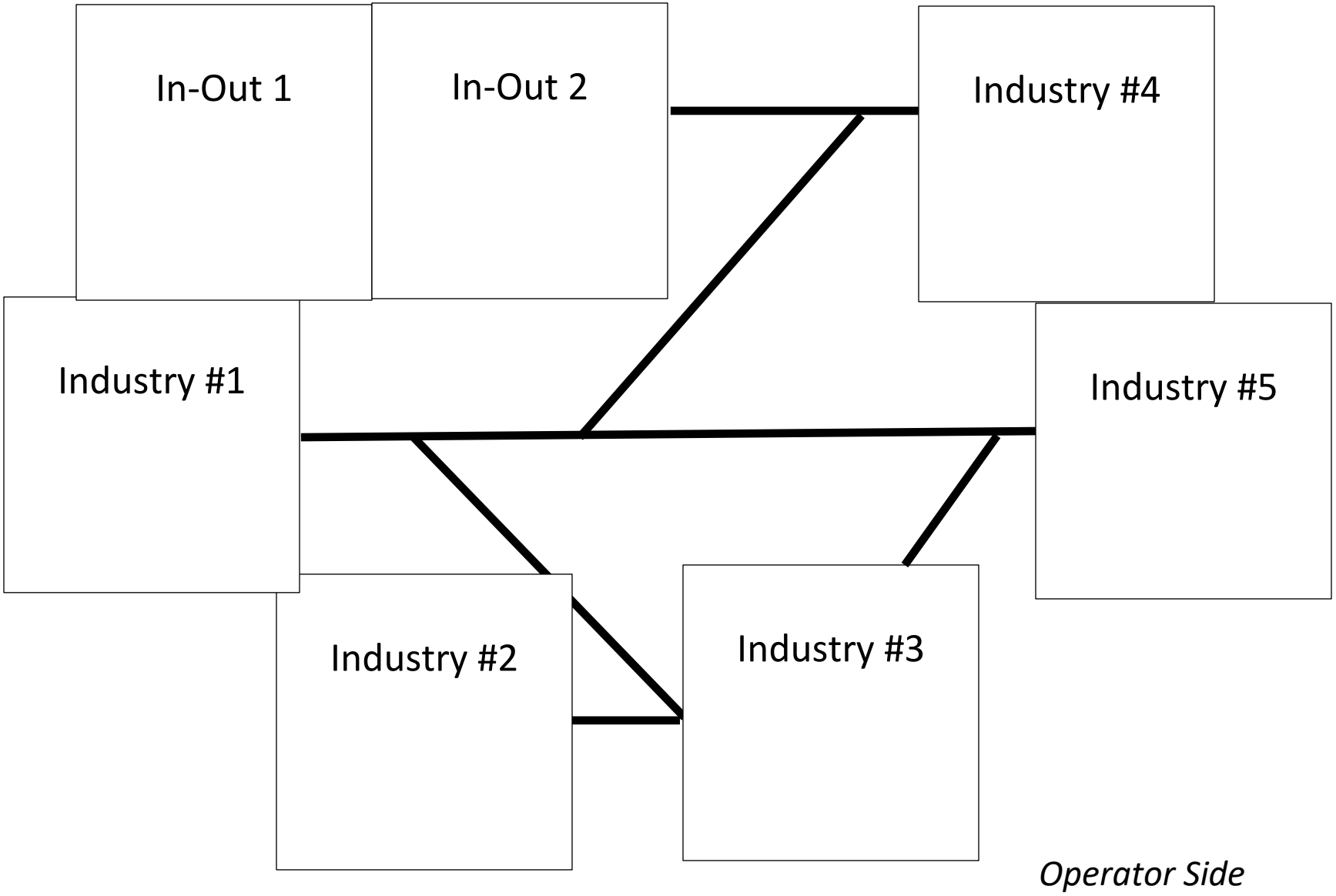
The last two sheets are printed on 11 x 17 paper to make the display poster. They are customized for the Timesaver layout.

Car 1	Car 1	Car 1	Car 1	Car 1	Car 1
In-Out 01/30	Ind. #1 02/30	Ind. #2 03/30	Ind. #3 04/30	Ind. #4 05/30	Ind. #5 06/30
Car 2	Car 2	Car 2	Car 2	Car 2	Car 2
In-Out 07/30	Ind. #1 08/30	Ind. #2 09/30	Ind. #3 10/30	Ind. #4 11/30	Ind. #5 12/30

Car 3	Car 3	Car 3	Car 3	Car 3	Car 3
In-Out 13/30	Ind. #1 14/30	Ind. #2 15/30	Ind. #3 16/30	Ind. #4 17/30	Ind. #5 18/30
Car 4	Car 4	Car 4	Car 4	Car 4	Car 4
In-Out 19/30	Ind. #1 20/30	Ind. #2 21/30	Ind. #3 22/30	Ind. #4 23/30	Ind. #5 24/30

Car 5	Car 5	Car 5	Car 5	Car 5	Car 5
In-Out 25/30	Ind. #1 26/30	Ind. #2 27/30	Ind. #3 28/30	Ind. #4 29/30	Ind. #5 30/30

Car 1W 1/10	Car 2W 2/10	Car 3W 3/10	Car 4W 4/10	Car 5W 5/10
Car 1E 6/10	Car 2E 7/10	Car 3E 8/10	Car 4E 9/10	Car 5E 10/10



Operator Side

Date: _____ Score Sheet # _____ of _____ total sheets

Row #	Contestant Name	Repeat Yes/No	# of Cars Moved	Time Score	Move Score
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Timesaver Switching Puzzle

- Created by John Allen, *Model Railroader* magazine, November 1972.
- This Atlas Snap-Track version, *Model Railroader*, October 1976.
- Has grown to many versions in all model scales. This is HO scale.
- Internet search finds many descriptions and how-to-build articles.
- Puzzle consists of:
  - Specific track layout.
  - Set of initial conditions.
  - Defined goal, and
  - Switching rules.
- This layout – 5 industry destinations, 5 cars, 1 car per industry.
- Complicated by limited track lengths and cars already in place.
- Can be used as standalone puzzle or as part of larger layout.
- Goal: Spot cars at assigned destinations.

- Rules for this layout:
  - ➢ Inbound – Outbound track is storage yard (2 car maximum).
  - ➢ Locomotive begins and ends at crew house.
  - ➢ No uncoupling magnets; OK to touch cars to uncouple.
  - ➢ Switchpoints must be clear to change turnouts.
  - ➢ Do NOT move cars by hand. If necessary, rerail in place.
  - ➢ Work from existing initial condition.
  - ➢ Observe yard speed limit.
  - ➢ Pick destination card for each car. Pick all cards before moving.

    If you are lucky, some cars might not need to be moved.

    If destination is full, pick another card for that car.
- Score is overall time of session, including thinking time.

  Shorter is better, but think before moving.