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Introduction to MechWorks

MechWorks 1.1 is designed to help BattleTech players design their own BattleMechs.

There are three major windows in MechWorks to help one build a BattleMech:

The main window displays all of the information about the BattleMech in a condensed format, similar to that in the Technical Readout books. It is where the BattleMech name, model number, and tonnage are changed. It also contains the menus that allow one to change the type of, show information about, save and print the 'Mech.

The Modify Armor dialog box allows one to change the amount of armor in every location of the 'Mech.

The Modify Equipment dialog box is where all of the equipment is added, moved, and removed. Because the engine is a piece of equipment, this window is also where the 'Mech's speed is changed.

MechWorks Main Window

This window displays all of the information about the 'Mech in memory in a condensed format.

The top of the window holds all of the items that allow one to change the BattleMech. The name of the BattleMech, model number, and tonnage are all changed here. To the right of these items are the buttons that open the major dialog boxes, Modify Armor and Modify Equipment.

The 'Mech's tonnage can be changed at any time. MechWorks will do its best to accommodate any equipment that may grow or shrink depending on the new tonnage. (See "Special Equipment.") Because everything may not fit in the critical slots, MechWorks may remove excess equipment.

The middle of the window displays all of the equipment that is common to all BattleMechs. The listbox at the bottom shows the rest of equipment installed on the 'Mech.

File Menu

New

Clears the current BattleMech from memory, and creates a 10 ton, Inner Sphere 'Mech with only basic equipment.

Open...

Loads a BattleMech into memory from a file.

Save

Saves the BattleMech to a file, if the 'Mech is legal.

Save As...

Saves the BattleMech with a different filename, if it is legal. The 'Mech's model number or name is used as the default filename.

Print...

Prints the BattleMech in memory, if the 'Mech is legal.

Note: When a BattleMech is printed, there are some critical slots that print gray. Depending on the printer, this text may print black instead. Or, some text may print offset from where it should be, or in some strange font. If any of these things happens, changing some printer settings for the Windows printer driver may alleviate the problem. In particular, HP laser printers work best when the "Print true-type as graphics" check box is checked.

Exit

Quits MechWorks.

'Mech Type Menu

Inner Sphere

Clan

OmniMech

Inner Sphere (C)

Changes the technology base of the BattleMech in memory. MechWorks will convert all of the equipment on the 'Mech, and will remove anything it can't convert or that doesn't fit. OmniMech bases and variants are also selected from this menu.

Quad

Changes the BattleMech from a two-legged to a four-legged 'Mech and back. MechWorks will convert the arms to legs and back, and will remove equipment that only belongs on arms or legs to do this.

LAM

Converts the BattleMech into a Land-Air 'Mech and back. The LAM conversion equipment will appear in the equipment list at the bottom of the main window.

Note: Only Inner Sphere BattleMechs that are less than 55 tons may be LAMs.

Options Menu

BattleMech Info...

Displays the cost, combat value and, for OmniMech bases, available pod space.

Information Boxes

MechWorks does a lot of things automatically, and displays information boxes to let one know what it has done. This menu item toggles whether MechWorks displays these information boxes or not. When one gets a feel for the automated features of MechWorks and doesn't want to be bothered with these messages, this option can be deselected. Error boxes will still appear as normal.

Rare Equipment

The equipment list on the Modify Equipment window normally displays only the most common equipment that can be placed on a 'Mech. To add a piece of equipment that can't be found on every 'Mech (artillery weapons, 1/2 ton ammo slots, etc.), select this menu option.

OmniMech

Creating an OmniMech is a little different than building other BattleMechs, because OmniMechs are really five 'Mechs in one. There are two steps to creating an OmniMech.

The first step is to create the OmniMech base. Select the "OmniMech" option on the 'Mech Type menu, and then select "Base." Be sure to add everything from the armor and engine to a name.

The second step is to design the variants. Before one can work on the variants, MechWorks makes sure that the OmniMech base is legal. There are five variants available, all listed under the "OmniMech" menu item. When switching between variants, MechWorks will again assure that the current variant is legal before loading the next.

Note: It is important to know that one should not change the base once the variants have been started. If one tries to change the base, **all variants will be lost!** The variants are so dependant on the base 'Mech that if the base were changed, none of the variants could be placed on it properly.

Note: Do not place any heat sinks into the arm of an OmniMech when working on its base, because they will become fixed when working on its variants. In other words, there will be no way to add any arm actuators because the heat sinks will be in the way. If one must have heat sinks in the arms, wait until working on the variants to add these heat sinks.

Modify Armor Dialog Box

This is the dialog box one uses to change the armor values in each location of a BattleMech.

There is one scrollbar for each armor location. Under each of these scrollbars is the amount of armor in that location. The range that the thumb of the scrollbar may move depends on the amount of armor that will fit on that location. For most locations, this is limited by the weight of the 'Mech. For the torsos, it is a little different. The amount of armor that can go on the *entire* torso (front and rear) is limited by the 'Mech weight, so the amount of armor that can be put on the front is also dependent on the amount on the back. Also, there may not be more armor on the rear of a torso than is on the front of that same torso.

The box in the upper-right corner shows the current armor factor, armor weight, unused points for that weight of armor, tons free on the 'Mech, and whether it is special armor or not. See "[Special Equipment](#)" for further information on replacing normal armor with special armor.

Balance Armor

This check box allows one to keep the 'Mech's armor balanced. When this box is checked, any changes made to the armor location on the left side of the 'Mech are also made to the corresponding location on the right side, and vice-versa.

Maximize Armor

This button puts as much armor on the 'Mech as its weight will allow. All of this armor will be placed onto the front torsos, but won't reduce any rear armor.

Tip: Place as much armor on the back of the torsos as is wanted before pressing the "Maximize Armor" button.

Modify Equipment Dialog Box

This is the dialog box one uses to add, move, and remove equipment from the BattleMech.

The listbox in the upper-left corner of the window displays all of the equipment that one may place on the BattleMech, depending on the 'Mech's technology base, and whether rare equipment has been selected. Double-clicking on any of these items shows all of the statistics of that item for this BattleMech. Double-clicking on the items on the critical hit table will also display this information.

The lower-left corner of the window gives a lot of helpful information about the BattleMech, including the free tons, the number of empty slots, the maximum heat the 'Mech can produce in one round, and the amount of heat dissipated in one round.

There is some special equipment that is handled differently by MechWorks than other equipment.

Add

Prepares MechWorks to add the equipment selected in the listbox to the BattleMech. The mouse cursor will change to show that it is "holding" the equipment. Click the critical hit location where the equipment should be placed.

Note: If one decides not to add a piece of equipment, pressing the "Remove" button or clicking the right mouse button will stop adding the equipment.

Move

Removes the selected equipment from the BattleMech, and allows one to place it somewhere else.

Note: Moving sparse equipment (e.g. Endo-Steel) only moves one critical at a time.

Remove

Removes the currently selected equipment from the BattleMech.

Mount Weapon to Rear

Weapons that are added to the 'Mech while this box is checked are mounted facing to the rear of the location they are placed.

Change Speed

Displays a dialog box that allows one to change the speed of the 'Mech. Depending on the new engine rating, heat sinks may be moved into or out of the engine.

Special Equipment

There is some equipment that is handled differently by MechWorks than other equipment. This topic covers each of these items in detail.

AC/20, Arrow IV, Caseless AC/20, High Velocity AC/20, LB 20-X AC, Long Tom, Sniper, Thumper, and Ultra AC/20

All of these items may be split across many locations on a BattleMech. However, there are some restrictions on how these items will be split. First, MechWorks uses all of the critical slots available in the location where it was placed. Then, before moving to the next location, MechWorks checks to see if anything in the original location could be moved elsewhere. For example, an AC/20 will be split out of an arm if the arm only holds actuators, and not if it holds a heat sink that could be moved someplace else.

Also, the next location can be no further from the center torso than the original location. For example, a Long Tom placed in the right torso will not split all the way into the left arm, but may be split from the left arm into the right torso.

None of these items will be split out of or into a leg or the head.

Artemis IV Fire Control System

When Artemis IV is added to a BattleMech, MechWorks adds one to every missile launcher that is compatible with Artemis. If Artemis cannot be added to one of the missile launchers, no Artemis will be added to any launcher.

After adding the Artemis, whenever a new missile launcher is added, an Artemis system is automatically added to it. If one of the Artemis systems is selected to be removed, all systems will be removed.

Blaser Armor, Endo Steel, Ferro-Fibrous Armor, Glazed Armor, MASC, and Tripple Strength Myomer

All of these items are considered equipment because they take criticals on a BattleMech. When adding these items, MechWorks only adds one critical at a time until all criticals are placed.

CASE

A Clan BattleMech gets free CASE in every location that holds a piece of equipment that may explode. MechWorks will always add this CASE automatically. CASE *does* appear in the equipment list for Clan 'Mechs, but this is merely to allow one to double-click on it and see its statistics. It cannot be added from this list.

Claw, Hatchet, Mace, and MASC

Each of these item's size is dependant on the weight of the BattleMech. When a BattleMech's weight is changed, MechWorks will try to resize each item for the new weight. If one of these items needs to be expanded and there is no room for it, it will be removed.

Heat Sinks

MechWorks will place as many heat sinks in the engine as the engine rating will allow. The engine rating can change whenever the BattleMech's speed or weight is changed. MechWorks then moves heat sinks into, or removes them from the engine. If there are no critical slots for some of these heat sinks, they will be removed.

To remove a heat sink from the engine when there are no heat sinks left in the critical

slots, go to the Modify Equipment window. Then, select the Engine and press the "Remove" button.

A BattleMech must have at least 10 heat sinks on it to be considered legal.

Jump Jets

When changing the speed of a BattleMech, if the speed is reduced below the number of jump jets on the 'Mech, enough jump jets will be removed to prevent the 'Mech from jumping further than it walks. All jump jets on a 'Mech must be balanced for the 'Mech to be considered legal.

Targetting Computer

A Targetting Computer can only be added to a BattleMech that has at least one direct-fire weapon. When selecting to add another direct-fire weapon to the 'Mech, the Targetting Computer will be expanded. If it cannot be expanded, the weapon will not be added. The Targetting Computer would either need to be moved someplace where there are more criticals, or removed entirely to allow that weapon to be added. When a direct-fire weapon is removed, the Targetting Computer will be reduced in size.

Legal BattleMech

Even though MechWorks puts many constraints on building a BattleMech, it still allows enough play for one to get the 'Mech just the way it's wanted. Therefore, the 'Mech in memory may or may not be legal. Before saving or printing the 'Mech, or switching to a new OmniMech variant, MechWorks checks the following conditions:

- Does the BattleMech have a name?
- Does the BattleMech not exceed its tonnage allocation?
- Does the BattleMech have at least 10 heat sinks?
- Does every weapon that requires ammunition have at least 1 ton of ammo? If the weapon is a machine gun, is does it have at least 1/2 ton of ammo?
- If the BattleMech has jump jets, are they balanced?

If any of these tests fails, then the BattleMech is considered illegal.

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Credits

All of the following people deserve credit for making this program what it has become.

Jeff Keyser wrote this entire program, including this help text.

Mark Brewbaker made an extreme sacrifice by making his computer available to write this program. He also spent more time user-testing this program than anyone else. The **Weapon Stats** section of the printed 'Mech sheet was his most helpful suggestion.

John I-Hate-That-Robot-Game Schrieber created the program icon.

Plus, many thanks to all of the other beta testers:

Dale Why-Can't-I-Put-Jump-Jets-In-The-Arms Dentler
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Curt Why-Can't-A-'Mech-Have-Three-Engines Stone
Drew Teets
Dan Tingle
Jeff I-Love-Finding-Bugs Victor

Dedication

This upgrade from MechWorks 1.0 to 1.1 had been dedicated to the memory of my brother.

Daniel John Keyser
December 29, 1969 - July 5, 1994

