

# Flow System Rebrand — Work Order Complete

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## Executive Summary

Successfully replaced all user-facing instances of the old “Anchor / Engine / Whip” terminology with the new “**Ground Flow / Engine Flow / Barrel Flow**” system across the entire CatchBarrels application.

- All visible UI labels updated
  - Coach Rick prompts updated
  - Momentum Transfer coaching text updated
  - Drill categories renamed
  - Admin/coach views updated
  - Internal prop names preserved for backward compatibility
  - TypeScript compilation successful
  - Next.js build successful
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## New Terminology

### Ground Flow

- **Definition:** Lower body & ground interaction • stability • rhythm at start
- **Replaces:** “Anchor”
- **Covers:** Ground interaction, loading, stability, foundation

### Engine Flow

- **Definition:** Torso / core / spine rotation and sequencing
- **Replaces:** “Engine” (when used as a pillar name)
- **Covers:** Hip-shoulder separation, core rotation, torso sequencing

### Barrel Flow

- **Definition:** Barrel path, depth, direction, on-plane movement and timing
  - **Replaces:** “Whip”
  - **Covers:** Barrel path, hand path, bat delivery, timing at contact
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## Files Modified

### Player-Facing UI Components

1. `components/analysis/aew-cards-section.tsx`
  - Updated section header: “Body Metrics Breakdown” → “Flow Metrics Breakdown”
  - Updated subtitle: “Motion (Timing) • Stability • Sequencing” → “Ground • Engine • Barrel”
  - Updated card titles:
    - “ANCHOR (FEET & GROUND)” → “GROUND FLOW”

- “ENGINE (HIPS & SHOULDERS)” → “ENGINE FLOW”
  - “WHIP (ARMS & BAT)” → “BARREL FLOW”
  - Updated descriptions to match new definitions
2. `components/momentum-transfer-card.tsx`
- Updated visible label: “Power Flow” → “Engine Flow”
  - Note: Component already used “Ground Flow” and “Barrel Flow” correctly
  - Internal variable names ( `powerFlow` ) preserved for backward compatibility
3. `components/four-b-tile.tsx`
- Updated Body description: “Anchor • Engine • Whip” → “Ground • Engine • Barrel”
4. `app/drills/drills-client.tsx`
- Updated drill categories:
    - “Anchor” → “Ground Flow”
    - “Engine” → “Engine Flow”
    - “Whip” → “Barrel Flow”
    - Categories array now:  
`['All', 'Ground Flow', 'Engine Flow', 'Barrel Flow', 'Tempo', 'General']`

## Admin/Coach Views

1. `app/admin/session/[id]/session-detail-client.tsx`
- Updated card title: “Legacy A/E/W Scores” → “Flow Scores”
  - Updated score labels:
    - “Anchor” → “Ground Flow”
    - “Engine” → “Engine Flow”
    - “Whip” → “Barrel Flow”
    - Internal field names ( `session.anchor` , `session.engine` , `session.whip` ) preserved

## Coach Rick & Momentum Transfer

1. `lib/momentum-coaching.ts`
- Updated file header comment:
    - “Power Flow (Hips → Torso)” → “Engine Flow (Hips → Torso)”
    - Updated coaching text throughout:
      - “Your power flow has a leak” → “Your engine flow has a leak”
      - “Ground Flow → Power Flow → Barrel Flow” → “Ground Flow → Engine Flow → Barrel Flow”
      - “Your Power Flow is strong” → “Your Engine Flow is strong”    - Updated all zone name mappings:
      - `'powerFlow' ? 'Power Flow' → 'powerFlow' ? 'Engine Flow'`
      - Updated detail paragraphs to use “Engine Flow” consistently
      - Internal variable names ( `powerFlowScore` , `powerFlow` ) preserved for backward compatibility
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## What Was NOT Changed

### Preserved for Backward Compatibility

- TypeScript Interfaces:** All prop names like `anchorScore`, `engineScore`, `whipScore` remain unchanged
- Database Fields:** No database schema changes (as specified)
- Internal Variables:** Variables like `anchor`, `engine`, `whip`, `powerFlow` remain unchanged
- API Field Names:** Request/response bodies use existing field names
- Scoring Engine Logic:** No changes to calculation logic or scoring algorithms

### Helper Mapping Pattern

Components use this pattern to separate internal names from display names:

```
// Internal variable names preserved
const ground = groundFlowScore ?? anchorScore ?? 0;
const power = powerFlowScore ?? engineScore ?? 0;
const barrel = barrelFlowScore ?? whipScore ?? 0;

// Display names updated
const zoneName = zone === 'groundFlow' ? 'Ground Flow'
    : zone === 'powerFlow' ? 'Engine Flow'
    : 'Barrel Flow';
```

## User-Facing Changes

### Dashboard & Session Detail

- Players now see “Ground Flow / Engine Flow / Barrel Flow” cards instead of “Anchor / Engine / Whip”
- Descriptions updated to match new definitions
- Visual styling unchanged (same colors, icons, animations)

### Drills Page

- Drill filter tabs now read:
- “Ground Flow” (lower body drills)
- “Engine Flow” (core/torso drills)
- “Barrel Flow” (barrel path/hands drills)

### Momentum Transfer Card

- Sub-scores now labeled:
- “Ground Flow” (Ground → Hips)
- “Engine Flow” (Hips → Torso)
- “Barrel Flow” (Torso → Barrel)

### Coach Rick Analysis

- All coaching text updated:
- “Your ground flow is inconsistent...”
- “Your engine flow has a leak...”

- “Your barrel flow is mistimed...”
- Structured reports use new terminology throughout
- Strengths/opportunities bullets updated

## Admin Views

- Session detail pages show “Flow Scores” with Ground/Engine/Barrel labels
  - All visible text updated while internal queries remain unchanged
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## Testing Performed

### TypeScript Compilation

```
yarn tsc --noEmit
```

**Result:** No errors

### Next.js Build

```
yarn build
```

**Result:** Build successful

**All routes compiled:** 66/66 routes

**No runtime errors**

## Manual Verification Checklist

### Player UI

- [x] Dashboard shows new terminology
- [x] Session detail shows “Ground / Engine / Barrel” cards
- [x] Momentum Transfer card uses new labels
- [x] Drill categories updated
- [x] 4B System tile shows correct description

### Coach/Admin UI

- [x] Admin session detail shows “Flow Scores”
- [x] Labels updated to Ground/Engine/Barrel

### Coach Rick

- [x] Coaching text uses new terminology
- [x] Structured reports updated
- [x] Energy flow descriptions updated

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## Screens Verified

### Player Screens

1. Dashboard (main)

2.  Dashboard → Body (4B detail)
3.  Video Detail / Analysis page
4.  Session detail page
5.  Drills page (filter tabs)
6.  Progress charts

## Admin Screens

1.  Admin Session Detail
2.  Admin Reports (weakest flow display)
3.  Admin Sessions list

## Coach Rick

1.  Momentum coaching text
  2.  Structured report paragraphs
  3.  Strengths/opportunities bullets
  4.  Next session focus
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## Database Compatibility

### Existing Schema Preserved

#### Video Model:

```
model Video {
    anchor Int?
    engine Int?
    whip   Int?
    // ... other fields
}
```

#### Lesson Model:

```
model PlayerLesson {
    anchorScore Int?
    engineScore Int?
    whipScore   Int?
    // ... other fields
}
```

- No migrations required
  - No data migration needed
  - Existing data fully compatible
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## Coach Rick Prompt Examples

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### Before:

Your power flow has a leak—the core isn't fully accepting what the hips started.

### After:

Your engine flow has a leak—the core isn't fully accepting what the hips started.

### Before:

Your energy flow through Ground Flow → Power Flow → Barrel Flow is balanced.

### After:

Your energy flow through Ground Flow → Engine Flow → Barrel Flow is balanced.

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## Implementation Strategy

### Approach Used

1. **Searched** for all instances of “Anchor”, “Engine”, “Whip”, “AEW” in the codebase
2. **Prioritized** player-facing UI components first
3. **Updated** visible text while preserving internal variable names
4. **Verified** admin/coach views next
5. **Updated** Coach Rick prompts and coaching logic
6. **Tested** TypeScript compilation and Next.js build
7. **Documented** all changes for future reference

### Key Design Decision: Separation of Concerns

#### **Display Layer (Updated):**

- All visible labels, headings, tooltips
- Coaching text and explanations
- Card titles and descriptions

#### **Data Layer (Unchanged):**

- Database field names
- API request/response fields
- TypeScript prop names
- Internal variables

This approach ensures:

- Clean user experience with new terminology
- Zero breaking changes to existing code
- Full backward compatibility
- Easy rollback if needed

## Future Considerations

### Optional: Internal Naming Update

If desired in a future phase, internal names could be updated:

1. Create new database fields: `groundFlow`, `engineFlow`, `barrelFlow`
2. Migrate existing data: `anchor` → `groundFlow`, etc.
3. Update TypeScript interfaces
4. Update API contracts
5. Deprecate old field names

**Not recommended immediately** as current approach works well and maintains full compatibility.

## Summary

### What Changed

- All visible UI text updated to “Ground Flow / Engine Flow / Barrel Flow”
- Coach Rick coaching text updated throughout
- Momentum Transfer explanations updated
- Drill categories renamed
- Admin views updated

### What Stayed the Same

- Database schema (no migrations)
- TypeScript prop names
- API field names
- Internal variable names
- Scoring engine logic

### Impact

- **User-Facing:** All visible text now uses new flow terminology
- **Developer-Facing:** No breaking changes, full backward compatibility
- **Data:** No migration needed, existing data works as-is

## Deployment Status

- TypeScript:** Clean compilation
- Build:** Successful (66/66 routes)
- Testing:** All screens verified
- Ready for Production**

**Work Order:** Flow System Rebrand (Ground / Engine / Barrel)

**Status:**  Complete

**Date:** November 27, 2025

**Build:** Successful

**Breaking Changes:** None